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The Tech News Volume 61, Issue 9, April 21, 1970

The Students of Worcester Polytechnic Institute

"STUCK"

Photo by Tom Kaminski

See Special Earth Day Section Pgs.

The Tech News

Vol. 61 | Worcester, Massachusetts | Tuesday, April 21, 1970 | Number 9

FAT AL'S OUT; MARYANN TAKES OVER

Fat Al McTammany, whose election to the office of student body president last month surprised the campus, once again sent the campus into confusion as he announced his withdrawal on Spree Day from W.P.I.

The surprise departure threw the student government into a constitutional crisis. According to the constitution, the secretary of the Executive Committee would become President But a permanent secretary has not been chosen as yet, due to a deadlock in the student government. The secretary has to be a member of the Executive Council and is appointed by Al McTammany and approved by the Executive Committee. The Executive Committee felt that the election of a secretary should be delayed until the Executive Committee, then a mixture of members of the old and new governments, was completely filled by the new government.

Mary Ann Bagdis, a freshman coed, was appointed temporary secretary. She is now acting President. The Constitution requires that the President be a member of the junior class at the time of the election. However, Mary Ann never was elected as President. Current expectations are that she will serve as acting President until new elections can be held.

Another possible interpetation is that since the constitution does not specifically require that the President remain in school, Fat Al is still President. This would mean that the student government is effectively closed down until next spring.

Al McTammany said that he had been wondering all semester what he was doing at Tech, and that he had just been sitting in the library doing a term paper when he realized what he was doing here: nothing. He announced his departure from the band platform in the quadrangle by saying, "I am leaving. I am not getting the education I want here. I am going out and getting one in the streets."

"I am leaving"

New President Maryann Bagdis

FINAL PLANNING REPORT RELEASED

The long-awaited THE FUTURE OF TWO TOWERS, PART IV: A PLAN has been published by the Faculty Planning Committee. The report constructs a new approach to education and a tentative timetable and method to place that approach in operation.

The report was to have been distributed to the faculty at a special meeting yesterday afternoon. A series of discussions of the report will be held with the faculty in the Music Room in Alden at 4:15 p.m. on the following dates: April 23, Thursday; April 28, Tuesday; April 30, Thursday; May 5, Tuesday; and May 6, Wednesday (and other days if necessary).

While these meetings will be open to students, their intent is to give faculty members an opportunity to discuss the proposal.

The Planning Committee will then request Dean Price to call a special faculty meeting tentatively scheduled for Tuesday, May 12, at 4:15 in Alden. The Committee will then present a series of motions endorsing various parts of the plan. Meetings will be held every day until all the motions have been voted on. When the faculty action is completed, the Secretary of the Faculty will transmit to the President and Board of Trustees the recommendations of the Faculty for consideration at the June meeting of the corporation.

The Faculty Planning Committee will meet with interested students on Thursday at 10:45 a.m. in Atwater Kent 117. Copies of the final report are available in the Library at the Circulation Desk. If there is sufficient interest, additional meetings with students may be held.

Excerpts from the Report are on page four.

The Tech News

Vol. 61 Tuesday, April 21, 1970 No. 9

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Editorials

THE SOCIAL TAX

Thursday a referendum will be put before the student body calling for an increase in the Social Tax of $5 per semester. Because of the rising cost of entertainment this will be necessary to continue the hiring of popular bands and personalities. The increase will enable the social committee to keep ticket prices to a minimum as well as continue to subsidize the Peddler. We urge everyone to vote yes on the tax.

THE EDITORS

GONE...BUT NOT FORGOTTEN

WPI will not soon forget the short but surprising reign of Student Body President Fat Al McTammany. The opposite of the Joe College image that presidents have fitted so well, Fat Al was the symbol of a different approach to the student government, of a leader unwilling to put on a front.

He came to the realization that he was not getting the education he wanted, and he acted on it. A person cannot help others until he has straightened himself out. Many students have realized that they were not getting the education here that they wanted, but lacked the courage to act. At least Fat Al had that much courage.

It was evident by last week that Fat Al could not accomplish much with the student government, partly due to the reaction to his appearance on the part of many members of the Tech Community. The student government was again caught up in its petty squabbles over jurisdiction, unable to see the larger questions confronting the community.

The student government will continue on its merry way, for the leaders need something to occupy their time. Some of its committees will continue to operate very effectively and othes show signs of becoming active again.

A year ago, a student told the Planning Group, "...Some people get really turned on by being introduced to new ideas and by learning to think in unfamiliar ways. Not many of them go to Tech." In the case of Fat Al, many were so turned off by his appearance that they didn't bother to listen to his ideas which turned out not to be so radical.

G.M.

Letters

APPEAL FROM THE CHAIRMAN

To the Undergraduate Body of W.P.I.

Thursday is referendum day. I am asking for a $5/semester increase in the social fee. You are now paying $10/semester. In rough figures this past year has run

less:

Fee income 30,000; Art Museum 4,000; Junior Prom 5,000; Peddler 7,500--balance 13,500.

This balance is used to cover the losses on concerts, plays, and other activities.

Because of the rising cost of groups, this figure is inadequate. Led Zepplin, Crosby, Stills, Nash and Young and other groups have no problem walking away with 25-30,000 dollars.

Besides group prices, costs for advertising, equipment and other miscellaneous prices are also increasing. With the plans I based my platform on, I can keep Tech student prices under $3.00.

This increase amounting to $15,000 will not be felt in the tuition bill while its results will be seen on campus all of next year.

I ask you to vote yes on the social fee.

Don Baron
Social Chairman W.P.I.

Free Church Seeks Support

Dear Editor:

Your help is desperately needed by a cause which hopes to free and unite men, abolish moral oppression, and stir people to social action. It is a cause supported by youth and suppressed by the Establishment.

STUDENT'S "FREE" CHURCH PERSECUTED IN THE "LAND OF THE FREE".

Rev. Dr. Art Fox and Rt. Rev. Dick Kerekes head up the FREE UNIVERSAL CHURCH (formerly the Universal Free Life Church). The international headquarters are in Hollywood, Florida but the church membership is almost exclusively made up of college students on over 900 campuses throughout the U.S. The FREE UNIVERSAL CHURCH has no doctrine or dogma and takes no stand on any religious belief. It does believe that all men are entitled to their own convictions; to seek truth their own way. The church is quickly gaining fame due to its policy of making any man, woman, or child a legally ordained minister, just for the asking, and a free will donation. That is not the end of the relationship, however. Local churches are now being formed in all 50 states, Canada, Puerto Rico, S. America, and all over Europe through the European headquarters in Luxembourg. A monthly newsletter is sent to all "ministers". Rev. Dr. Fox stresses, "This movement is for real". Rev. Kerekes adds, "We intend to set men free so they may 'come together' ".

During Spring Break, Rev. Dr. Fox and Rt. Rev. Kerekes towed the church canteen trailer to Fort Lauderdale beach. Inside were ten thousand candy bars to be distributed free, to the many students there. In order to park on the main strip, they arrived at 2 a.m. They walked the streets all night, talking to many students. Many wondered who they were when they saw the duo in their gray clerical shirts with gold peace emblems and medallions. The students popularly refer to the church as "THE GOD SQUAD". The two ministers discovered that the Establishment had decreed that "good students" have no need for a bathroom between 2-7 a.m. When the facilities were open, they were found to smell badly plus the number available for forty thousand people was inadequate. Local officials are very insistent in their demands for a "toilets to people" ratio whenever a rock festival permit is applied for. THE GOD SQUAD canteen opened about noon and needless to say, was busy from the start. One hour and a thousand candy bars later, the police closed it down. Rev. Fox says, "The reason given was a crowd gathering. It was okay for crowds to exist in front of the restaurants where students had to pay for food but not where it was free! The Establishment wanted to exploit the students to the fullest extent. We had something free the students wanted but no way to let them know we had it. We also have a religion that is "free" which the students want but no way to let them know about that either. The Establishment press is hiding the fact that today's youth is religious and they are suppressing news of the church. NBC interviewed me at Lauderdale," says Rev. Fox, "but they cut all of it except for my remarks about the rudeness of the police and how disrespectful they are to students.

UP IN SMOKE

by Paul Cleary

Two subjects which are demanding a good deal of attention on the WPI campus presently are the aborted Abbie Hoffman speech and Earth Day. Both are mentioned in conversation with much confusion and little concrete fact, the reason being that no one is sure what the real facts are behind each.

Chicago conspiracy defendent, Abbie Hoffman, was denied the right to speak on campus one week ago by President Hazzard. The reason which the President gave was that Hoffman did have a place to speak (the Worcester Junior Parking lot) and thus was assured full freedom of expression. WPI then had no "moral" obligation to allow Hoffman to use its facilities. (It should be noted, however, that at the time the President first turned down the Hoffman speech - Friday afternoon - Worcester Junior had not made arrangements for him to speak in their parking lot on Tuesday. Holy Cross College, however, had assured Hoffman freedom of speech through the use of its field house for a speaking engagement Tuesday night.)

Many people on campus feel that pressure from certain members of the Board of Trustees may have had more to do with President Hazzard's decision than is being let on. It is no secret that several of the members of WPI's board would do everything in their power to prevent the appearance of someone such as Hoffman on campus.

As far as Earth Day is concerned, there is a feeling among many people on campus that some of the participants in the school's program of events for that day have been asked to go easy on naming names of companies in the Worcester area which are main sources of pollution. The reason for such thinking is obvious: with several of the members of WPI's board also chairmen of those companies which might be named, the possibility of pressure on the school to refrain from being too critical of specific companies would not be difficult to believe.

In both of these cases, there is, as of yet, no concrete evidence to show that members of the board exerted their influence to affect school decisions. Yet in both cases there are ample reasons why people might believe that to be the case. The trustees have always had a large say in policy making at WPI. This is best pointed out by such examples as ROTC and dormitory parietal hours. The Board of Trustees at WPI has never been restricted to merely handling the school's financial investments, but if what is rumored to have occurred in these most recent cases is true then this time members of the board have misused their power.

If the academic freedom of the college can be and is controlled at will by the trustees then there is no academic freedom on the campus. Due to the seriousness of these charges, it would seem to be in the best interests of the school if some sort of investigation by the WPI community were undertaken. And if the rumors are found to be true then perhaps the resignations of specific board members should be demanded.

OOPS!

To The Editor,

I would like to congratulate the Tech New's editors for their concern and deep commitment to the environment. The last edition of the paper showed particular insight. Your front page article, "Pollution: The Price of Modern Technology" and President Hazzard's challenge. Those wonderful quotes and picture on page two; and most important, that superb ad of page 7 for the Southern California Edison indicated your deep understanding of the environmental problem.

Right On!
BRAD MILLMAN '73

(Ed. Note - Southern California Edison is reportedly one of California's major polluters.)

EVALUATE

How many times have you said to yourself, if only I had that Prof. or if only I knew what this course was really like I could have steered clear of them. Unfortunately we really don't know about Profs. or courses. The only feedback that comes to us is from friends who took the course with that instructor, or who heard about it from his friend.

The Academic Committee, which is part of the Student Government is doing something about it. The committee is working on an extensive evaluation of all courses and instructors. You might be saying to yourself, just another evaluation like in the past. In the past very few people responded to the questioners making the evaluation meaningless. It is here that we are asking for your help. In the next couple of weeks you'll be asked to fill out a short questionnaire. Please take the time to do a thorough job on it so that answers will contribute to the evaluation. The results will be candid and available to students registration.

SENIOR
CLASS
MEETING
Thursday, 4/23/70
10:45
in ALDEN
ABOUT GRADUATION

March starting in downtown Worcester

Rally in front of City Hall

Rev. Kline addresses rally group

Worcester Moratorium: A Collection Of Causes

by Jack Matte

I arrived in the square in front of city hall at one o'clock to see a group of about 500 people milling around. This was the April 14 Worcester Moratorium. There were numerous handouts and newspapers being given away or sold. For a while it seemed like this was all that was going to happen. One girl got up on the platform to crusade for the rights of high school students. Then Neil Cassidy of the Worcester chapter of SDS told us what to expect from the rest of the day's program. He claimed that one of the better points of the Worcester Moratorium was the absence of politicians on the podium (he must have neglected the fact that Peter Camejo, Socialist Workers Party candidate for U.S. Senator, was to speak).

Cassidy then gave the platform to Terry Bell, a Vietnam veteran, who related his reasons for going into the army, and what happened to him in Vietnam. He said that he saw firsthand the way the people of Vietnam were fighting for their freedom and that the U.S. is not helping too much. The man in the streets of Vietnam does not consider the U.S. his best friend, he said. After this man told why the U.S. must get out of Vietnam, the rest of the speakers were a real letdown.

Peter Camejo got up to give a radical speech, which sounded like a campaign speech. He called for power for the working people, etc. He finished up with a few chants. Following was a speech by a Puerto Rican student asking for freedom for Puerto Rico. The final speaker was Sadie Hooker, of the Worcester Welfare Rights Organization, who spoke the case against State Mutual, which has torn down slum housing and refused to hire blacks to work on construction at these sites. Immediately following, a march was organized to go down to the State Mutual building. There was relatively little violence there, but about a dozen people were arrested when they tried to enter the grounds. The whole thing broke up at about 4:30.

This moratorium would have been more successful if it had only been a Vietnam war moratorium. But as it appeared, it was only a collection of people who showed up to beat the drum for their own causes. The only people who were really together was the WICN staff, who did a great deal of work all day.

March to State Mutual

Calvary and infantry at the ready

Slides Present Vietnam Objectively

As the scene changes from a serene and majestic mountain setting to a smoke filled jungle clearing, the speaker says, "Vietnam is truly a land of contrast." The color slide shown, presented by two ex - GIs drew enough interested people to nearly fill the Library Seminar Room last Wednesday night.

The pictures and commentary belonged to David True, who returned from Vietnam in March, 1969, and his brother Robert who returned some five months later. Dave is a senior chemistry major here at Tech while Bob is pursuing a degree in biology at UMass.

The show was divided into two parts, the first concentrating on the country itself and the second examining a GI's life in Vietnam.

Dave's air cavalry division traveled widely in South Vietnam allowing him to compile a fairly complete album of that country. Among the views were portraits of the countryside, jungle and rice paddies. Scenic aerial shots of rivers, rocky coastlines and beautiful sunrises and sunsets hardly reinforced the commentators "You can have it" attitude.

Several photos were devoted to life in a Vietnamese village with an accent on the children. Although 80% of the over 21 population are illiterate, the situation is improving. Children now noramlly receive five years of education before they are sent to the rice paddies. Although most peasants are barely able to eke out a living from their rice harvest, agricultural South Vietnam is capable of feeding all of Asia.

Moving to the city, the camera caught glimpses of crowded markets, ornate Buddhist temples, and well fortified government buildings, Here is the sharpest contrast of wealth and poverty.

Now changing the point of view slightly, one sequence of shots follows an ordinary GI through his day. It's mostly work-digging, moving sandbags, ducking into a bunker during an artillery barrage--but that night there happened to be a bash in honor of a departing comrade. "Great"

An interesting aside was provided by a series of close ups on some of Vietnam's unusual insects. Ordinary grasshoppers ran as large as four inches and moths as large as six inches. Oversized lizzards are also common.

While overseas, Dave True was part of a captured documents translation team and also taught English to Vietnamese. Bob was a first lieutenant with an artillery unit. They introduced the audience to some of the equipment used in Vietnam with which they came in contact including several types of helicopters, planes and artillery pieces.

The presentation itself was not concerned with the politics of Vietnam nor with the present military situation there. Rather, it was an objective look at the country, its people and its customs.

Several issues came up in a question period following the show, however. Bob True had commented about a noticable age gap between junior and senior officers in the army. He later attributed this to a "disenchantment among young officers" with the workings of the army, a factor discouraging reenlistment.

Dave remarked that the Vietnamese people are apathetic toward the cause. According to his observations, villagers will feign support for either side depending on the situation.

The brothers have given the show before at various hometown functions and have developed it into a professional presentation.

Abbie As Theatre

by Neil Herring

If one assumes that reality is relative to where one is, or where one sits, for that matter, it is very easy to see why the public in general takes Abbie Hoffman so literally. When one looks for a political scapegoat, it is also easy to see why no-one bothers to understand Abbie, or use any understanding which has been acquired, in explaining his motives.

The easiest way to explain Abbie is to see him on the stage, where he belongs. Since anything can be made into a stage, including a court room, Abbie is constantly acting. This type of theatre is usually called guerrilla theatre, and the new left has found it to be an excellent way to get good coverage by the news media.

The great thing about guerilla theatre is that, if done properly, the audience sees it as reality. Since an audience to ordinary theatre sees only an act, it does not look for anything other than happy endings and good morals. Guerilla theatre then becomes a type of shock treatment. By exaggerating a point past anything acceptable, there is a chance that the public as audience will over-react initially, but will settle into a state necessarily nearer to the point of view expressed in the theatre "act".

Abbie Hoffman uses this whole concept in his attempt to stir up public opinion. A reactionary public sees every word spoken by Abbie as an example of such extreme radicalism that only someone insane would speak. Actually anyone who believes that Abbie speaks for an ideology which could damage AMERIKA, would have to be insane. (How could anyone believe that we could live on Robby Stoddard's credit cards?)

Of course then there is that part of the public which looks on Abbie as some sort of prophet. They too are being misled, by not recognizing Abbie as theatre. They are the ones to pity the most, for they will never be satisfied unless the words of the prophet are fulfilled, something which is necessarily impossible.

As an art form the guerilla theatre has its drawbacks. First of all, the artist is unknown and second of all, there is no way of gauging the public's reaction beforehand. This leads to public reaction similar to the reaction enured by Abbie. In time, perhaps Abbie can overcome this, and become one of the great actors of all time.

CROSSFIRE by Richard Logan

Clear And Present Insanity

The TECH NEWS was very upset last week about Abbie Hoffman not being allowed to speak here with the official blessings of Boynton Hall. "What hope is there for a college whose president was unwilling in this case to defent freedom of speech?" lamented the TECH NEWS. The wails and moans also echoed from much of the rest of the paper, and, indeed, it seemed that the entire issue #8 was but a disjointed editorial, urging us at one point not to "...fall back on semantics to justify personal fascist beliefs..." and, elsewhere, to recognize, "...that the American dream with its 'home of the brave and free' is not even a hint of what actually exists in reality. Even the defense of the many freedoms that we understand to exist is left up to those with a shallow concept of the implications of freedom." All very ominous.

The TECH NEWS reported that President Hazzard barred Hoffman on the grounds that his speaking, "...would be inappropriate at the present time," which did nothing to dent the President's mint new image as an up and coming fascist. His latent wish for the adoptation of a policy for an open campus, where anyone could speak, tended to catapault any theoretical grounds for his action on off over the horizon somewhere, leaving only the circumstantial argument to shiver under our gaze - the argument that Hoffman's speaking here at the time would have been inappropriate. Why inappropriate? Would it have been inappropriate if, say, Hubert had dropped by for lunch, and then hinted that he wouldn't mind ("I'd be proud as punch!") saying a few words to us all? One tends to doubt it, the pungent odor of expediency wafting down on us from Boyston Hall being just a little too strong to allow one such forgiving notions.

It is a great pity, the resort to a tactical expediency, because it was unnecessary. One can understand how a man with a disposition such as

cont. on p. 17, col. 1

PROPOSED FUTURE OF WPI

The Plan for WPI is designed to meet the Goal of the College to impart to the individual student an understanding of a sector of science and technology and a mature understanding of himself and the needs of the people around him.

The Plan is structured so that the student himself would be responsible and accountable for his life style and for his becoming educated. The Plan requires that the student, supported by excellent instruction and an effective advisory system, demonstrate that he can learn on his own, that he can translate learning into worthwhile action, and that he has become aware of the interrelationships among basic knowledge, technology and human need.

The Plan is flexible enough to accommodate the varying backgrounds, needs, and maturities of students. With its innovations and sound academic approach, it is a justifiable and exciting undertaking for an independent college of engineering and science. It would create a community where both the student and the faculty member would find about them a group of people enjoying learning and attempting to solve some of the most difficult problems of the time.

Excerpts of the Academic Aspects

Educational Program

Each student's academic program would consist of a mixture of INDEPENDENT - STUDIES/PROJECTS, STUDIES, and STUDY-CONFERENCES selected to meet his individual goal and the College's degree requirements.

One of the most important aspects of the proposed educational program is that each student, in conjunction with his advisor, would structure his own program. The average WPI student, while concentrating in the scientific, technical, and sociological areas, would most benefit by establishing a minor in a humanities area to increase his personal perspective and ability to make reasonable judgments.

The overall educational program would be conducted as follows: STUDIES and the lecture portion of STUDY-CONFERENCES would be given to relatively large groups (but less than 100 students) and would be formally scheduled. The conference portion of STUDY-CONFERENCES, formally scheduled, and IS/P's would be conducted in small groups, providing for close personal contact between students and faculty. Short "how-to-do-it" presentations would be available on demand to aid in acquiring specific techniques as needed. The INTERSESSION period would be devoted to concentrated presentations of specific topics.

Advisory Program

It would be the responsibility of the advisor to assist his advisees in defining their educational goals, and developing with them academic programs directed toward achieving those goals. The advisor would direct his advisees in their preparation for their COMPREHENSIVE and SUFFICIENCY EXAMINATIONS and would ultimately certify that they were ready for those examinations. Occasionally, he might have to recommend to the Council of Advisors that one of his advisees withdraw from the College.

Two other groups would play particularly important roles in the advising system, the INDEPENDENT - STUDY/PROJECT supervisors and the faculty groups preparing and evaluating the COMPREHENSIVE and the SUFFICIENCY EXAMINATIONS.

Calendar

The Calendar recommended consists of four seven - week TERMS; a three-week January INTERSESSION for a series of special intensive seminars; and an optional seven-week Summer Term.

Each TERM consists of 35 class days followed by a recess of approximately five days. The first TERM begins early in September; two TERMS are completed before the Christmas recess of approximately two weeks; and the fourth TERM is completed before the end of May. Three weeks are provided throughout the year for comprehensive evaluation and program review.

Graduate Studies

The graduate program should support the educational Goal of WPI and should complement the undergraduate program. In considering the development of areas of graduate research emphasis or support, the governing criterion should be the relevance of the program to the Goal of the College and to the education of our students. Programs that support this criterion should receive funding priority.

Only those graduate areas that show strong promise of significant self-support should be given Institute funding for development. Such funding should be sufficient to provide for realistic development, but it should be for a limited time period.

For the immediate future a large portion of the energies of the faculty should be devoted to implementing the proposed undergraduate program. In the meantime the present graduate program should be strengthened, but no major change in this program should be attempted concurrently with the changes in the undergraduate program.

It is expected that as the undergraduate program gains momentum, a multidisciplinary graduate interest and need would evolve. This interest and need should be developed into a graduate effort that meshes naturally with the undergraduate program.

Proposed College Community Life

Coordination of the College Community Life with Academic Goal

At the present time, throughout the country, there has been an increasing separation between generations. The colleges, because of their increasing size and demands upon them are by no means immune to this separation.

The planning model presents a program which would hopefully provide a campus environment acceptable to all members of the WPI community. But a perfect environment cannot be engineered and it must take a great effort on the part of both faculty and students to make the best of what is presented.

Presently the students and faculty have found themselves somewhat divorced from the educational purposes of the college (after the class day) due largely to the dormitory-fraternity arrangement for students and the faculty insistance of living outside of the city where schools, housing, etc., are provided far more pleasingly.

To overcome these barriers the planning committee hopes that all associated with the college continue to think about the radical changes needed to foster "a place where good learning and good life can flourish."

A number of general principles were set up in order that the physical plant may be developed. These principles include:

a.) An environment which should help the student assume and the faculty realize a more mature student attitude toward education and other responsibilities of the community.

b.) WPI should be a leader in establishing an environment that is both pleasant and protects individuality.

c.) The campus needs reception areas for guests, and for meetings among members of the community.

d.) Both students and faculty need versitile forms of housing and assistance in housing should be a responsibility of the College along with providing dining arrangements that contribute to good community.

e.) The common morality of the campus community can share is good manners, not a set of rules.

Based on these principles the Committee recommends the following examples of changes and addition to the physical plant of the College:

A. Campus center-

Alden Memorial and Sanford Riley Hall would be extensively and carefully renovated to provide the campus with: a reception and lounge area on first floor Riley, an outdoor cafe on the roof above the present coffeehouse, a post office, a book store, the Admissions office permanently located on the second floor of Riley Hall, and series of single and double room apartments located on the top two floors to provide lodging for guests, students, faculty or transients.

The main hall of Alden Memorial would be the college dining hall and so arranged that it could be converted into an area for social events as well as exhibits and lectures. The former library would be utilized for large receptions and the Green Room reserved for special meetings of faculty and students.

B. Housing-

The President of the College would appoint a Director of Housing to assist all students and faculty in obtaining on campus and off campus housing.

The present dormitories would be carpeted with lounge areas created and each one would be equipped with group study rooms, a computer card punch, and terminals to the central computer.

New resident halls would consist of vertical units accommodating fifty or sixty people and contain apartments, suites, and single rooms.

Unless they have contracted for housing or dining the college should make no formal demands on fraternities, nor should fraternities have any special protection from civil law or from the mores of the community.

C. Misellaneous Recommendations-

Lounge and meeting areas could be developed throughout the campus for student and faculty uses as well as modernization (carpeting, ventilation, etc;) for the large lecture halls.

All but visitor parking would be prohibited on the West Campus and the remaining area be reclaimed and landscaped, and parking facilities be developed at the edges of the campus.

A master plan would have to be developed consistent with the educational goals of the College.

Proposed Undergraduate Degree Requirements

(Italicized terms are defined in the GLOSSARY)

The Bachelor of Science degree from Worcester Polytechnic Institute would be awarded upon completion of the following:

L. A normal residence of 16 TERMS.*

*Students with exceptional backgrounds or who would have demonstrated unusual accomplishment at WPI might, upon recommendation of the Council of Advisors, take their COMPREHENSIVE EXAMINATION before the completion of the normal 16 TERMS and receive their degree early if other requirements were met. In any case, however, early examination would not be recommended before completion of 8 UNITS in residence.

2. Acceptable or Distinguished completion of a COMPREHENSIVE EXAMINATION in the major field of study.

3. Qualification in a minor field of study either by SUFFICIENCY EXAMINATION or by overall evaluation of two UNITS of work in the area. Students majoring in a scientific or engineering field would normally fulfill the requirement in a humanities area. Students majoring in a humanities area would normally fulfill this requirement in a scientific or engineering area.

4. At least two UNITS established by Acceptable or Distinguished work in an advanced level activity involving INDEPENDENT-STUDY or PROJECT work. One of these UNITS would have to be in the student's major field. An activity relating science or technology to society is recommended for the second UNIT. Examinations may not be substituted for this requirement.

A Suggested Calendar

1970-71: An Implementation Committee, consultants, and administration would develop complete plans for a pilot program, including the administrative structure, advisory procedures, allocation of faculty, generation of on-campus and off-campus projects, and utilization of the physical plant of WPI for both educational and living purposes. Concurrently, all departments would undertake a thorough study of the content of their course offerings in order to design new courses to meet the educational requirements of the new program.

1971-72: First year of pilot program. Some members of the faculty would be involved on a full-time basis, others on a part-time basis, working with approximately ten to fifteen percent of the undergraduate student body, proportionately distributed by classes, except for seniors.

1972-73: Pilot program would be considerably enlarged with the addition of a large portion of the entering class as well as upperclass transfers from the regular program. Approximately two-thirds of the faculty would be involved at least part-time.

1973-74: All faculty would be involved to some extent. Approximately two-thirds of the students would be under the new program.

1974-75: All entering students and most upperclassmen would be on the new program. Upperclassmen under existing programs could continue until graduation but no new students would be accepted under present graduation requirements.

Glossary of Terms

NOTE: A number of new academic concepts are introduced in the Plan. A problem of semantics arises when old words are placed in new situations. The following glossary covers words which have special definitions within the context of the Plan which follows.

COMPREHENSIVE EXAMINATION: The examination required for the B.S. degree in which the student must demonstrate competence in his major field of study.

CONFERENCE (C): A meeting of six or fewer students and one instructor for the purpose of discussion of the material in a STUDY-CONFERENCE by all participants, including review, development and extension of the topic under investigation, and solutions to specific problems. In addition, laboratory work may be performed where appropriate.

INDEPENDENT-STUDY AND PROJECTS (IS/P): A basic educational tool of the College requiring individually motivated study of a problem or sub-problem under guidance of a staff member or an advanced student. Emphasis will be placed upon the student's learning what he needs to know to contribute to the solution of the overall problem. The investigation should culminate in a written report, possibly accompanied by an oral presentation, or a piece of equipment with a working manual.

INTERSESSION: A three-week period (in January) during which there will be offered a series of concentrated presentations or seminars on special topics. These may be attended by students, faculty, and members of the professional community. Sessions may be presented by faculty, students, visiting scholars, or experts from industry and government. Acceptable work for each INTERSESSION will establish 1/3 UNIT.

STUDY (S): A basic element of instruction which will involve, on the average, four class meetings and 13 hours of outside work for a total student commitment of about 17 hours per week for one TERM.

STUDY-CONFERENCE (S-C): A basic element of instruction which will involve, on the average, three hours of lecture, 2.5 hours of CONFERENCE, and 11-12 hours of outside work, for a total student commitment of about 17 hours per week for one TERM.

SUFFICIENCY EXAMINATION: An examination in which the student may establish his required qualification in a minor field of study.

TERM: A basic period of study involving seven weeks.

UNIT: A UNIT may be developed through work evaluated as Acceptable (A), or Acceptable with Distinction (AD) in any combination of the following:

A UNIT will generally consist of about 50 hours of work per week for seven weeks - one TERM.

1. STUDY - 1/3 UNIT per STUDY
2. STUDY-CONFERENCE - 1/3 UNIT per STUDY-CONFERENCE
3. INTERSESSION - 1/3 UNIT per INTERSESSION
4. INDEPENDENT-STUDY AND PROJECTS - 1/6 UNIT minimum for literature search or write-up, but normally at least 1/3 Unit extending up to one full UNIT for full-time work in this area per TERM
5. Physical Education - 1/12 UNIT per TERM of participation

APSA CONSIDERS WPI'S BLACK POLICY

by Glenn White

The need for more information on WPI's black policy was the principal conclusion drawn in the second meeting of the Trustee's Committee on Academic Policy and Student Affairs last Friday, April 10th. Principal subjects covered were black students, physical education, and Fat Al.

The principal conclusion from the debate on black students was that the faculty and students did not seem to know what the Trustees' policy on black admissions was. It was decided that a statement of the policy would be made available to the students and faculty.

Glenn White and Roger Kern, the two students present, attempted to outline the general white student view of black students, commenting that "The present attitude is that it doesn't bother us that much as long as they are not given things we are not given" and emphasizing that white students needed a great deal of education in the understanding of problems that a black student faces.

President Hazzard outlined his dealings with the black students, commenting that "We hope to keep the black students in very close contact with the white students" while respecting them as people by assigning them their own living and social areas. He added that the general experience around the country was that after a year or so of black students living together they began to disperse and mix in with the white students. Dr. Hazzard has approached foundations with a proposal for a minority poverty program for Spanish-Americans, American Indians, and "just plain poor white people" as well as blacks. One arrangement might be coordination with Worcester Junior College for a joint 5-year program.

The trustees present expressed doubts that Worcester Tech could ever support a black population of ten per cent, commenting that it just would not be economically feasible and expressing the wish to avoid specific quotas. Robert Stoddard commented, "I have always hoped that we here at Tech could establish an appropriate and fair policy and goal through the years to be consistent and be a little different from the common herd of educational institutions today. It just seems to me that a great many and most colleges today have panicked in many areas and one area is the race problem.... It seems to me that we have endeavored to be an engineering school and to offer the very best in engineering and technical education. That need is still great and will be greater and I hope that we could keep that first and foremost before us. In being that type of institution and within the size limitations which we have projected for ourselves and think are completely appropriate, we have to be limited to a certain extent....we welcome any student who is qualified and who wants what we have to offer here without any discrimination. I deplore the whole idea of quotas." The trustees have adopted a policy on disadvantaged students which stated that every attempt should be made to get disadvantaged students and which granted some scholarship aid.

Professor Moruzzi expressed the faculty's present uncertainty as to the current status of the disadvantaged student program as well as to school policy in general, commenting, "Nobody knows where the authority is. The trustees have ultimate authority to make decisions. What are the programs?...If we are to grow, we have to know in what direction we are going. As far as the faculty is concerned, there is no direction from anywhere."

Mr. Stoddard replied that he was surprised that there had not been communication to the students and faculty and that "The primary function of the board is to assure themselves of just two things- the honesty and the capability of the administration," the trustees then let the administration administer, replacing the top administration if they are not satisfied.

The trustees also expressed concern that W.P.I. was diversifying itself too much and that it should not try to be "all things to all people".

The subject of physical education was then discussed at the request of Mr. Warren Whittum, who had seen a series of articles on physical education in the TECH NEWS. Glenn White and Roger Ker then presented their views on physical education, suggesting that it should be made voluntary and that the current program did not seem to be worthwhile to the students involved. Mr. Bonin, a trustee, suggested that a series of seminars on lifetime sports be conducted by businessmen and the like to show their benefits and concluded that physical education should not be compulsory.

Another subject of discussion, suggested by Mr. Bonin, was Fat Al. Glenn White and Roger Kern viewed his election as a call for change and a different type of student government. They also felt that it symbolized the groping that WPI was going through and that the student government was confronted with the question of moving from areas of predominately student concern, such as parietals, which had been settled for the most part into questions of academic policy and national affairs.

President Hazzard commented, "I am concerned that he (Fat Al) may not last this semester. I have urged the people in the Student Council that they elect a good secretary." and also commented that Fat Al had been very presentable (nicely dressed, clean person) at two luncheons with him.

The committee now has a meeting scheduled in May and one in June.

HISC Looking For Reds In Peace Movement

WASHINGTON -- (CPS) -- As spring arrived and with it a new surge of anti-war demonstrations, the House Committee on Internal Security (HISC) set out to find Communists in the anti-war movement.

Since the New Mobilization Committee, which the House investigators decided to check, is a non-exclusionary group which freely admits to having some Communists (with a capital and small c) on its executive committee, there was some question why the HISC even bothered.

The hearings featured several undercover police, including Irwin Bock, a member of the Subversive Squad of the Chicago Police Department.

Bock found the anti-war movement so non-exclusionary that he managed to work his way onto the National Steering Committee of the New Mobe, a position he held until he popped up as a prosecution witness at the trial of the Chicago Seven.

The current hearings covered the New Mobe and the Student Mobilization Committee (SMC), which the committee investigators found had ties with the Young Socialist Alliance (YSA), a Trotskyist group. SMC members' ties with YSA were already well known in the anti-war movement.

The investigation stayed as clear as possible on the Vietnam Moratorium Committee, a moderate anti-war group which sponsored the moratoriums of last fall, despite the fact Committee Chairman Richard Ichord (D-Mo.) had included the Moratorium Committee in his call for an investigation last Oct. 8. At that time, Ichord said elements in the "so-called 'peace' movement" were joining forces to launch a fall offensive he described as "a propaganda maneuver designed and organized by Communists and other revolutionaries."

Having started the investigation just before the October demonstrations, the Committee followed up by releasing a staff study of the New Mobe on Nov. 4. That study showed, according to the Committee, "a significant presense of Communists and members of "front" organizations in leadership positions in the New Mobe."

The current round of hearings coincidentally occurred just days before the April 15 mass anti-war actions.

New Mobe staff members, contacted by CPS, took the hearings in stride, calling it an "attempt to smear us." They pointed out that the Steering Committee of the New Mobe includes representatives of various Marxist groups as well as such organizations as Clergy and Laymen Concerned, Fellowship of Reconciliation, SANE, and other more moderate groups.

Bock, the Chicago policeman, came in for strong questioning from Rep. Louis Stokes (D-Ohio) a liberal added to the committee to exert a moderating force on it.

Stokes constantly demanded to know why the Chicago Police Department was investigating political views. "I'm against the war, and the first amendment says I have the right to say it. But if I go to meetings in Chicago, that means I'm going to get investigated, doesn't it?"

After Bock replied that what mattered was how those views were demonstrated and whether violence was used, Stokes demanded to know what laws had been broken by those Bock filed numerous reports on.

The policeman conceded that no charges had ever been filed, but said it was his job to gather information for his superiors, who would then decide whether to file charges.

The Committee on Internal Security, which used to be called the Committee on Un-American Activities, has long been determined to prove that the peace movement is directed from some communist capital.

Since evidence is lacking, such exchanges as the following are all the committee can come up with.

The Committee counsel asked Bock if Leroy Wolins, a Chicago peace movement leader, traveled abroad. The policeman, who worked with Wolins, replied that he traveled to Russia and "the Communist satellite country of Rumania."

Second Introductory Lecture on Transcendental Meditation as taught by Maharishi Mahesh Yogi by Lewis and Andree Leonard
Thursday, April 23
8 P.M.
Dana (Commons) Auditorium
Clark University

JUNIORS
CLASS DUES
DUE
THIS WEEK

SENIORS

MATH:
Liberia, Ghana,
The Gambia, Uganda,
Malaysia, Micronesia,
Philippines,
Sierra Leone

CHEMISTRY:
Ghana, Malaysia,
Sierra Leone,
Eastern Caribbean,
Honduras

BIOLOGY:
Thailand, Tonga,
Guatemala, Kenya,
Chile, Peru, Guyana,
Honduras, Malaysia,
Korea, Uganda,
Ghana, The Gambia

PHYSICS:
Ghana, Korea,
Uganda, Malaysia,
Philippines,
British Honduras,
Eastern Caribbean

PEACE CORPS 1970

Programs begin this summer. See the Peace Corps liaison on campus or:

CONTACT:
Peace Corps
408 Atlantic Ave.
Boston, Mass. 02210
(617)-223-7366

BAWDY !?

by Joe Kaye

They started off kind of quiet and straight and gave the impression of being a couple of hick folk singers. But, by about the third or fourth number, Dr. and Mrs. Beall began to live up to their billing. Maybe bawdy isn't quite the right word, but, however you describe their music--mostly original compositions--it WAS entertaining. Their final selection aroused a two minute ovation and shouts of "more" and "encore" Not bad for the Chemistry Department.

Also on the program was Sally Savage, a folk singer from Salter Secretarial School. Though, the talent was there, there seemed to be a lack of personality. Miss Savage did not greatly impress me as much of an entertainer. All in all, though, the evening at "Friday the 13th" was an enjoyable one.

Don't forget, Wednesday night, April 22, Mr. Eddie Soares, famed jazz pianist, will perform at the Coffee House at 8 p.m.

SILVER'S OPINIONS

by Anthony Mattera

Congratulations to all of you who missed hearing Dave Silver speak at the coffeehouse. You successfully avoided having someone stimulate your thinking. He would have given you some fresh original social criticism to dwell upon. Too bad everyone was sleeping off the Spree Day celebrations, he might have straightened out your head.

Mr. Silver works for National Educational Television and occasionally produces his own specials. One of his specials, "America Incorporated", will be shown nationally around June 18. See it. On the side, he does these lectures for money and to teach people.

Mr. Silver wanted the lecture to be an experience for the audience and himself, i.e., an exchange of ideas. He just told how he feels "about what's going down now." He has very radical ideas which challenge the very foundations of our society. Before the article continues, realize this reporter is biased and agrees completely with Mr. Silver.

He believes that life has become meaningless for the majority of people in the world. People have false goals such as economically "beating the guy next door." People are so busy looking for money and prestige that they don't know what real living is - experiencing what real living is - experiencing, feeling, communicating. In short we are indoctrinated automatons of society and are acting less and less like human beings with concern for others.

Mr. Silver feels the key to making human beings human again, lies in the youth and in old people who think young. (By thinking young he means not afraid to live.)

David Silver

He feels a social revolution must occur. If it happens here in America, it will chain react throughout the world. A native of England, he said that his new wave of freedom and humanity cannot start in Europe or Asis for they are secondary powers and besides "everyone really wants to be American." America must be the original of the international humanity revolution. He estimated this revolution will take forty years.

Mr. Silver said "Abbie Hoffman is not insane, he's alive!" And all of the government officials are afraid of him because they have been dead for twenty years. As for political suppression and brutality, we have not seen anything yet. Mr. Silver predicts the future will bring many imprisonments, gassings, and firing squads.

Next Dave Silver criticized the "America love it or leave it" people. "Patriotism is bullshit!" he said. It begins the separation of nations and leads to major conflicts. Patriotism does not promote international brotherhood.

Mr. Silver gave this explanation of our social disorders. "When people can't breathe, they suffocate. And when they're close to death, they reach out to destroy." This is what the outbreaks of violence amount to.

Mr. Silver gave few facts to defend his beliefs. He just lets each person make up his own mind.

So on Spree Night, David Silver, optimistically believing the people revolution was spreading, left Worcester Tech.

CARNIVAL WILL BE MAY 9

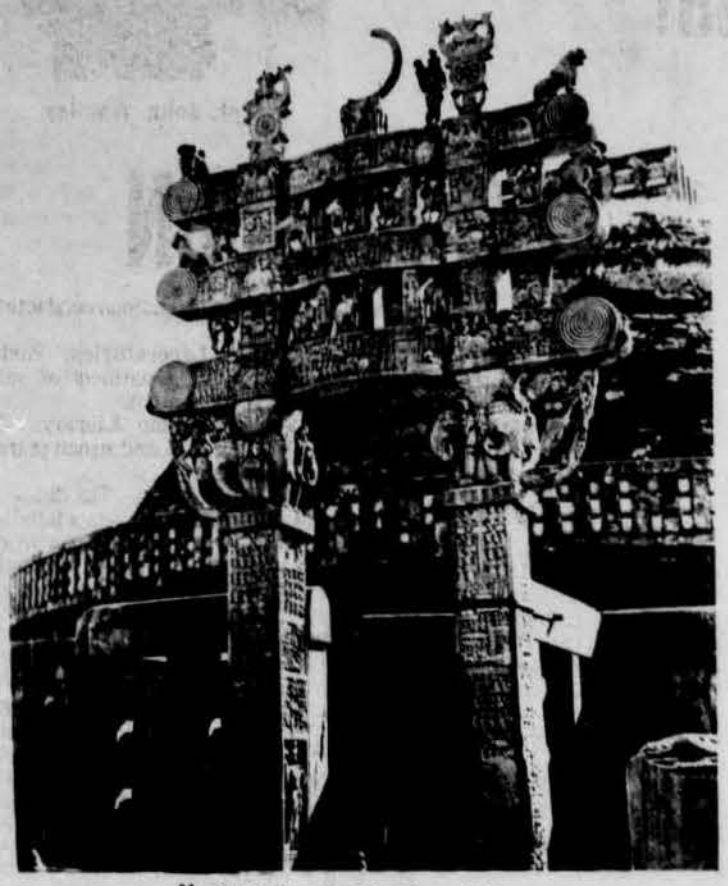
The 54th annual Tech Carnival will be held on Saturday, May 9 in Alden Auditorium at 7:30 p.m. Tnis is an old campus tradition originated by the Student Service Committee and carried on by Alpha Phi Omega. As part of the freshman-sophomore rivalry skits are presented by the two lower classes in competition. While these skits are being judged, the faculty will put on a satire of W.P.I. as they see it. A trophy will then be presented to the triumphant class.

Students with ideas for skits should contact their class officers.

Faculty members - please organize a skit this year.

Outlines of skits must be submitted by Thursday, May 7, to the APO box in Boynton Hall.

CARVINGS OF SANCHI



North Gate; 1st Century B.C.

The WPI Assembly Committee announces the open of THE CARVINGS OF SANCHI, an exhibition of 57 photographs by Margaret Allen, Assistant Professor of Art History at the University of Delaware. This exhibition will be on view in Gordon Library from April 25 to May 17, 1970. It is currently touring the United States and Canada under the auspices of the Smithsonian Institution.

The detailed and extensive photographs of Sanchi capture the beauty and splendor of the ancient Buddhist site of the 2nd and 1st centuries B.C. The early architecture of India which has survived for centuries is Buddhist for two main reasons. First, the Emperor Asoka was converted to Buddhism; he used the spread of stupa worship as a means to unify his vast empire. It was a common practice at the time of the Buddha (563-483 B.C.) to raise stupas over the mortal remains of holy men and those of noble rank. Emperor Asoka continued this practice by distributing the Buddha's body relics throughout the empire. Secondly, the techniques of carving and building stone structures replaced the earlier and less permanent use of wooden structures.

WHAT'S UP

BOSTON

DRAMA

"Hadrian VII" - Colonial Theater

MUSIC

Ikuko Mizono violin concert. April 22, at Boston University Auditorium.

Boston Symphony, works of Mahler and Bach, Friday and Saturday, Symphony Hall.

"Susannah" - opera at Cohen Center, Tufts University, Friday and Saturday.

Manfred Mann and Cold Blood at the Boston Tea Party. April 23-25.

WEDNESDAY APRIL 22

Film "Accatone" 3:30 and 8 p.m. Kimball Auditorium, Holy Cross.

Seminar - David H. Kellogg, planning director of Central Massachusetts Regional Planning Commission "Planning and the Public" 7:30 p.m. Atwood Hall, Clark University.

Chem. Colloquium - "Computer - Designed Syntheses of Organic Molecules" Dr. Richard Cramer, Harvard University. 4:15 p.m. Goddard Hall Rm. 227.

Free Films every weekday night at 7 p.m. through May 15 at all branches of the Worcester Public Library. Contact the library for titles and location.

EARTH DAY

THURSDAY APRIL 23

Chem Seminar: "Stecoid Biosynthesis" Dr. Thomas Spencer, Dartmouth College. 4 p.m. Haberlin Hall, Holy Cross.

Poetry Reading: Polemical Permutations Party Little Commons, Clark University.

Glee Club Concert, combined WPI and Anna Maria College glee clubs at Anna Maria.

FRIDAY APRIL 24

J.P. Weekend - "Age of Aquarius" - Semi-Formal, groups to be announced 8 p.m. Harrington Auditorium.

Play - "Once Within Your Mind" by Bridgeport Players of University of Bridgeport, Conn. 8 p.m. Hogan Ballroom Holy Cross.

Film "Alphaville" 8 and 10 p.m. Johnson Auditorium Clark University.

Poetry Recitation: David Madden, writer-in-residence at Louisiana State University and author of "Cassandra Singing" and "The Beautiful Greed". 8:15 p.m., Atwood Hall Clark University.

SATURDAY APRIL 25

Chariot Races, 10:30 a.m. Quadrangle

J.P. Concert - 8:30 p.m. Harrington

Concert: Dr. Seymour Hayden on harpsichord 8:15 p.m. Little Commons Clark University.

Exhibit - "The Carvings of Sanchi" photographs from the Smithsonian Institution. In Gordon Library until May 17.

SUNDAY APRIL 26

WPI - Art Museum Concert Series. "Paul Zukofsky, violinist", 3 p.m. Alden.

Clark Aero-Club 7 p.m. Geography Building, Clark University.

MONDAY APRIL 27

Exhibit: "Inventions of Leonardo da Vinci" Hogan Center, Holy Cross till May 8.

WEDNESDAY APRIL 29

Film "The Red and the White" 3:30 and 8 p.m. Kimball Auditorium, Holy Cross.

Concert: Clark University Choral Society, 8:15 p.m.

THURSDAY APRIL 30

Concert: Rev. T.C. Culley on the harpsichord. 8:15 p.m. Hogan Rm. 519 Holy Cross.

Play: The Pageant Players 7-9 p.m. WPI Quadrangle.

"OUR ENVIRONMENT: DANGER IN OUR TIMES"


Dr. Imre Zwiebel


Prof. Fitzgerald


Prof. Carl Koontz


Prof. Lawrence Neale


Dr. K. Keshaven


Dr. William Hobey


Prof. John Worsley

April 22 is Earth Day,
So Get Involved!

MORNING

9:00 - Registration in Alden Memorial Auditorium

9:30 - "The Environmental Crisis: Action or Reaction"
Prof. Carl H. Koontz Head, Department of Civil Engineering
"Why Worry About Air Pollution?"
Dr. Imre Zwiebel, Associate Prof. of Chemical Engineering
"Use of Physical Models in Pollution Studies"
Prof. Lawrence C. Neale, Director of WPI's Alden Research Laboratories

10:30 - Break - Greetings from the City of Worcester, Mayor George A. Wells

10:45 - "The Magnitude of Water Pollution and its Control"
Dr. Krishnaswaniengar Keshevan, Associate Prof. of Civil Engineering
"Sociological, Economic and Political Aspects of Environmental Problems"
Prof. Leon S. Graubard, Assistant Prof. of Economics, Government and Business
There will be no luncheon program or scheduled luncheon

An Afternoon Seminar For Earth Day

by Prof. John Worsley

This proposal is based upon the belief that problems in the relationships of people are more fundamental than problems in the relationshins between man and his environment. The contention is, that until human problems of values and institutions are resolved, the technological problems, no matter what the technological expertise, will not be resolved. This seminar is designed to discuss a broad range of social problems, some dealing directly with the environment, some not, and faculty with competency in these areas would serve as discussion leaders.

AFTERNOON

The afternoon program will consist of panel discussions conducted by faculty and students on the following topics:

1:00 - Water Problems - Room 109, Higgins Laboratories. Participants will discuss treatment of drinking water, treatment of wastewater, the many uses of water, pollution and its control.

Urban Planning - Seminar Room, Gordon Library. This panel will discuss the urgency for application of sound urban planning to control pollution in our spreading urban areas.

2:00 - Air Problems - Room 109, Higgins Laboratories. The discussion will cover the types of air pollution, the hazards associated with the various types, and the means by which cleaner air can be achieved.

Socio-Economic Problems of Pollution Control - Seminar Room, Gordon Library. This panel will disucss the non-technical problems of pollution control with emphasis on the roles of government, industry, private organizations and the individual citizen.

Seminar on Social Problems -- John Worsley will lead this discussion.

3:00 - "The Quality of Life" - Seminar Room. This panel discussion will summarize the discussions of the day and suggest a course of action.

Moderator: Mr. Glenn H. White, '71, Editor in Chief, Tech News
Panel Members: Dr. Robert W. Fitzgerald, Professor of Civil Engineering
Dr. William D. Hobey, Professor of Chem-
Mr. Paul J. Cleary, '71
Mr. Bernard J. Dodge, '70

DISPUTE OVER TACTICS

by Phil Semas

Chronicle of Higher Education

College Press Service

(CPS) - Student activism on environmental issues is moving toward its first national teach-in--faced with disagreements over tactics and ideology which threaten to divide it in the same way as earlier student movements concerned with the war in Vietnam and racial issues.

Underlying the disputes about the teach-in are basic disagreements about tactics and ideology that many fear may divide the ecology movement.

Some activists believe the basic causes of enviornmental problems are scientific--population growth that is out of control, the misuse of technology, and pollution of air and water. Control population, change the way technology is used, and get industry to stop polluting, they argue, and the environment can be saved.

Others maintain that the roots of the environmental crisis lie in the conomic and political system. Capitalism, they argue, is oriented toward the exploitation of resources and domination of the environment. Until that system is changed they say, the environment cannot be saved.

This difference in analysis results in a disagreement over tactics as well.

One group believes in educating the public and trying to elect politicians on environmental platforms. Its members are afraid of tying environmental issues too closely to social controversies, because they believe the public is tired of such issues as the war.

The other group argues for more militant tactics against government and industry, and for relating the ecological crisis to other social issues. They argue that the war in Vietnam, for example, must be tied directly to the environmental crisis. "If you're worried about the extermination of seals and sparrows," one of these activists said at a recent meeting, "I suggest you worry about the extermination of millions of people as part of U.S. foreign policy."

Some observers fear these disagreements eventually may splinter the ecology movement.

"The ecology movement is at the same place as the anti-war movement and the Civil rights movement were a few years ago," says Steven Shapiro, professor of English and comparative literature at the University of California at Irvine. "We're all singing 'We shall overcome' or, rather, 'We shall clean the street.' We're going to have the same collision course in the ecology movement as in the civil rights and the anti-war movement."

IN DEFENSE OF PROTEST

by B. Allen Benjamin

Professor of Civil Engineering

Prof. Benjamin

The forthcoming environmental teach-in, otherwise known as "Earth Day" is basically a day for protest. Senator Gaylord Nelson, the originator and promoter of the whole idea makes this quite clear in the current issue of Reader's Digest, where he states: "On April 22, hundreds of thousands of Americans will PROTEST the destruction of our planet". Most of the protestors will be, he says, high school and college students, and they will "demonstrate" in a variety of ways, some contemplated, some already tried out. These will range from "burning billboards, burying an internal combusion engine, and giving out dishonor awards"... such as to the "Smokestack of the Month".

The protest aspect of the day is further elaborated on in a recent Newsweek article, which points out that on Earth Day ". . . . some new terms will be added to the lexicon of protest", including "filth-ins" (where each protester brings with him five pounds of garbage), "mill-ins" (where huge traffic-stopping crowds will mill around at major intersections), "phone-ins" (where companies accused of being the worst pollutors will find their telephone switchboards jammed with incoming calls all day), and "lie-ins" (where students will protest the air and noise pollution of jet airliners by lying down in front of those planes about to taxi for takeoff).

Senator Nelson also considers it important that the demonstrations be student-originated, and independent. The loosely-organized national headquarters for the movement, has, he says, "made it clear that students are to do their own thing, suggesting only that they might start with problems on campus and in the neighboring community." This desire for independence, fundamental to any genuine grass-roots movement, was strongly evidenced a month or so ago. According to another Newsweek item, when Presidential assistant John Ehrlichman tried to arrange a meeting with the Earth Day headquarters personnel, he was turned down FLAT. The student leaders said they "saw no good in such a meeting".

One of the Massachusetts coordinators of the movement also urges independence. On January 21 he wrote to a W.P.I. faculty member, saying, "The whole idea is to get students to initiate their own projects and to organize them. . . . The obvious temptation (for faculty) is to jump in and do it. . . ." This national and local desire for independent student action is, by latest reports, being maintained in most places. But here and there - in a few colleges and high schools - the April 22 movement has been taken over - captured - almost lock, stock and barrel by the school authorities. Student suggestions for forms of protest, or even for outside speakers, have been reportedly vetoed, and a carefully structured "educational program" has been substituted - one which will not rock anyone's boat.

While such take-overs will not exactly endear the authorities to those students discerning enough to see what has happened, the motive may be no worse than to exercise the old philosophy of "Papa knows best". It may even be due to the personal enthusiasm of the faculty and staff, and their desire to get aboard the environmental band wagon. Or it may be due to the desire (worthy on another day) to show the world the technical capability of the institution in question in the environmental area. Or finally, and of particular relevancy to this piece, it may be due to administrative scorn for protest itself, as an instrument of expression, and to a fear of its possible "misdirection".

OF COURSE protest may be misdirected (as may be ANY policy, program or action). Many problems of the environment, and of its pollution and destruction, are SO broad, SO complex, and SO interrelated that there is, without doubt, a real danger of attacking the wrong culprit, and of oversimplification. However, up until recently, the academician was frequently as guilty as the activitist-and sometimes more so - of oversimplifying environmental problems. He tended to look at his surroundings from the viewpoint of his own discipline alone. Even today, "air", "water", "wildlife", "soil" and "land" are regarded by some professionals as separate and separate components. And many of these professionals, even when cooperating, look at the NATURAL environment as THE environment, forgetting that man-made cities and public works are also part of the total picture. The city and the regional planner has taken a somewhat broader view, since by training they are generalists; but even they have often been concerned only with how and where development SHOULD occur and not with where it SHOULDN'T. So let's not be too critical of an activist who singles out an isolated example of environmental damage and goes to work on it. Perhaps he, too, realizes there are other things that need looking into. In the meantime, he just might bring about a change while the engineer is still polishing up his slide rule.

There is a time and place for everything, and there are 364 other days in the year for the vitally needed scholarly research and environmental training vital to long-range improvement. But what is wrong with devoting ONE day (or maybe a few more) to action? And has protest in the area of the environment been such a failure in the past that we should spurn it?

On the contrary, one could fill the provertbial book with success stemming from citizen protest in this area. Senator Nelson points out in his aforementioned article, how last December students (and faculty) at the Binghampton campus of the State University of New York protested the bulldozing of a unique fifty-acre marsh on the edge of campus. Not only was the construction halted, but 30 more acres have been set aside as a nature preserve. He also mentions how a group of law students in the nation's capital brought legal action to force the Transit Authority to reduce pollution from its busses.

The recent series of demonstrations (along the shore and in boats) by ADULT residents of Santa Barbara helped to bring about a Federal review of our offshore oil drilling policies. Stuart Udall, in "The Quiet Crisis" describes many other cases in which the tide of battle against the despoilers was tipped by protest action.

More recently, the Sierra Club, one of the most respected conservation groups in the country, has come to regard protest so effective in the environmental area that it is issuing a booklet called "Ecotactics", filled with suggestions on "how concerned individuals can do something about the pollution of our surviving resources". According to a review of this publication in the Boston (Sunday) Herald, it contains among its more fascinating suggestions, the following: "Don't buy beverages in one-way (no-deposit, no-return) containers." "Collect six-packs of empty one-way containers and ship them back to the Board of Directors of the company that manufactured the product." "Avoid using electrical appliances from 5 to 7 p.m. This is peaking time, and your participation in it justifies many Bureau of Reclamation and utility (company) claims that more dams and other power facilities are needed!

But, one asks, is it gentlemanly-is it professional - to put someone else on the spot? (After all, no one WANTS to be a polluter or despoiler.) Well, after 30 years of beating my own head against the wall in conservation and planning matters, I have reluctantly concluded that if there is no protest and pressure, there will be NO correction of most environmental problems. The reason is simple; the correction or elimination will cost MONEY, and few if any business managers and few if any politicians will, or even can, spend their stockholders' or taxpayers' (respectively) dollars unless they are FORCED to do so by strong pressure. That's only natural, and it is the system, and not its individual operators, that make it so.

At the same time, I no longer expect instantaneous remedies. Time is needed to accomplish the elimination of even something as "simple" as a belching chimney. I do however, expect an immediate COMMITMENT for corrective action from particular polluters and despoilers - a commitment beginning with an admission that the problem exists and including a TIME-TABLE and a SPECIFIC program for improvement. This would be a lot more satisfying than what we now all too often receive from such parties-denial, anger, and even ridicule. (After "Silent Spring" was published, Rachel Carson received more than her share of the latter from portions of the Chemical Industry). So sensitive are some industrial pollutors to critisism that a private college dependent on their good will and funds might even be reluctant to have its students discuss or to challenge management to say what they are going to do about it.

I sincerely hope that Earth Day is a bang-up success throughout the United States, including Worcester, Massachusetts. I hope it truly provides, as contemplated, a chance for activists to do their thing. I further hope that these young activists will be joined (in spirit, if not in body) by scientists, engineers and other academicians who will for a full day - and perhaps thereafter - see the benefits of both scholarly and the political approach; who will, henceforth, be as concerned with the effects of technology as they are with technology itself.

NEEDED AT WPI. : COURAGE AND HONESTY

"The point is that the engineers--all of those who take the engineering approach, build the bridge and get the people and the cars from one side of the river to the other and to hell with the side effects--are shaping the nation unchecked, molding the land and murdering thousands of its inhabitants, raping America while the rest of us look the other way. Theirs is a rape from which America can never, never recover." Gene Marine, "America the Raped".

In these pages, the TECH NEWS attempts to present some facts and opinions on pollution, the environment, and humanity. We have drawn from the Collegiate Press Service, THE ENVIRONMENTAL HANDBOOK, and, above all, members of the Tech community. We urge you to participate in the Earth Day and, more important, to join in a continuing effort by Tech to help solve the problems of the environment.

Your role in that effort could be of crucial importance, not only because brute man power is always needed in such a effort, but because the present plans, formulated largely by adminstrators and faculty members, seem one-sided in their approach to the problem.

The administration and faculty have concentrated on raising funds and dispersing knowledge. There also appears to have been subtle warnings against "unconstructive" actions, i. e. actions and words that might antagonize business. While business's support can be of great help in any effort, we have a larger obligation to the public to inform them honestly without distorting the true facts. ". . . there has been a failure of leadership. More than any other factor, it is the missing ingredient in our situation today." -- John W. Gardner, remarks before the National Press Club, December 9, 1969.

Perhaps one tact that could be employed is to establish a tradition of an annual or semi-annual awards night, on which, after appropriate publicity, the ten worst Worcester area, polluters would be announced, whether the polluter be Wyman-Gordon WPI's infamous smokestack, or any one else. Films and comments on each polluter would attempt to show why they deserved the award and an opportunity to defend themselves would be given to each polluter. WPI would then offer to devise a plan to help solve the winners' pollution problems.

Business will not (and perhaps, due to competition, cannot) solve their problems unless forced to by public pressure. The public must be informed, not only to business's responsibility for pollution, but to their own responsibility for America's environmental mess.

In solving pollution, involvement and funds are essential ingredients. But honesty and courage area also key ingredients. Perhaps the students can be most effective in fighting pollution by making sure that W.P.I. attacks the pollution problem and the polluters honestly and courageously.

"OK, so you want to end the war, end racism, end poverty, and end pollution. But what about something POSITIVE?"

PEOPLE'S DAY

by Professor John A. Worsley, WPI

Earth Day is perhaps a misleading title.

It implies that we are truly concerned with Mother Earth. That we care about cleaning up her air, her waterways, her land formations. It implies that we will take out our scrubbing brushes and clean up the earth. We will, that is, after technology has developed bigger and better scrubbing brushes.

But will we? Is it the lack of technology that stops us? I think not. Much of the technology necessary to solve environmental problems has already been developed. Let me give you one example. A process has been developed to convert coal and other fossil fuels to electricity almost directly, without intervening boilers, turbines, or generators. The process is about 50 per cent more efficient that conventional coal-fired generating plants--which, in turn, are about 50 per cent more efficient than nuclear plants. It would signigicantly reduce the thermal pollution created by most present power generation--a major source of air pollution. Also, because the process is more efficient--it burns less fuel per kilowatt hour than other power-generating techniques--less pollution results from producing the same amount of power. In addition, because the fuel for this process must be seeded--that is, an ionizable substance must be added to it to make hot gases electrically conductive--and then the seed removed, there is an added means of removing pollutants with the seed. The United States Government, and American industry, has known about this process for some time. Why hasn't it--and other pollution reducing technological process--been put into effect?

Relatedly, why has President Hazzard admonished us to participate in Earth Day while the chimney at WPI continues to pour forth black sulphureous smoke?

Why do the chimneys at Wyman-Gordon Company--one of WPI's major financial contributors--continue to pollute the air?

Is Nixon trying to divert youth with ecology?

Why does President Nixon contend that he is concerned about environmental problems and yet spend more on getting to the moon than he does on preserving the earth?

Because we lack the scientific, technological know-how? Of course not. The reason that we have failed to solve environmental problems is the very same reason that Abbie Hoffman is not allowed to speak at WPI, and that President Nixon is awakened during the night to hear of the peril of three astronauts, but not of the deaths of hundreds of men in Viet Nam, of hundreds of women from illegal abortions, or of hundreds of children from malnutrition.

The reason little is done is that we have not solved the basic problems of economics, politics, and social relations. Nor have we yet committed ourselves to doing so. We have not yet got down to fundamentals. I remind you that the conservation movement was only successful in the early years of this century after industry found it profitable to support it. And I caution you that Nixon may be using the ecology fad as a political device. He could divert the energies of all reformers into what Mrs. Nixon called the campaign to "clean up the back yard." If Nixon is really serious about this serious problem, why has his commitment been no greater than a campaign to end litter-bugging? You know the reason.

I suggest, therefore, that before we have an Earth Day, that we have a People's Day--and solve some more basic questions.

Where The Money Goes

by Lee Webb

WASHINGTON -- (CPS) -- Nixon's much-touted economy drive on the "defense" budget has brought the spending for 1971 down to $71.8 billion compared with $77 billion for 1970. Nixon has thus pulled $5.2 billion out of a hat and presented it, as proof of America's decreasing investment in the instruments of war, to a public increasingly concerned by astronomical military expenditures. A closer examination of the budget reveals why very few defense contractors are grumbling about the crackdown.

The February issue of ELECTRONIC NEWS, one of the most important aerospace journals, reports, "The gloomy predictions of reduced military outlays failed to pan out as the Nixon budget showed increases in aircraft and missile procurement as well as electronics and communications, over the 1970 funds approved by Congress."

The explanation of the apparent contraduction between a declining defense budget and rising contracts for the big aerospace corporations rests in the Pentagon's budget figures. According to Defense Secretary Melvin Laird, expenditures on Vietnam are expected to fall from $30 billion a year to $17 billion a year for a total decline of $13 billion. The budget cuts are coming out of ordinance, lower troop levels, base closing, apparel, transportation and other industries closely tied with Vietnam.

In fact, Nixon's "declining" defense budget includes more new military procurement programs entering their initial stages than any budget of the last decade. Nixon is planning to build all the new weapons systems the military has been dreaming about, including:

"HEY MAN, GET WITH IT WAR'S OUT POLLUTION IS WHERE ITS AT!"

The F-14, a new air superiority fighter for the Navy. Projected cost: over $36 billion; The McDonnell Douglas F-15, a new air superiority fighter for the Air Force. Projected cost: over $25 billion; AWACS, a new airborne radar system. Projected cost: $15 billion; the new Safeguard ABM system whose ultimate cost has been estimated as between $20 to $50 billion.

These new weapons systems are being given most of the money expected to be saved by cut-backs in Vietnam. This is of course the same money that liberals called the "peace dividend" and hoped would be spent on America's domestic problems.

Although the 1971 budget is less than what was spent in 1970, it is $20 billion higher than before the Vietnam war started and there are indications that the defense budget will rise this year or in following years higher than the White House is now estimating.

"In The Midst Of It All"

by Dr. William D. Hobey, WPI Prof. of Chemistry

Much has been written lately on our environment. In the midst of the discussion in the popular magazines, books, and even the scientific journals of the scientific, technological, economic, and sociological aspects of the problems suffered by the environment, one finds a not inconsiderably mention of religion. The reason for this is contained in a statement by Lynn White, Jr. that appears in his article in SCIENCE (the journal of the American Association for the Advancement of Science) Vol. 155, pp. 1203-7 (1967): "What people do about their ecology depends on what they think about themselves in relation to things around them. Human ecology is deeply conditioned by beliefs about our nature and destiny--that is, by religion."

There are two aspects to the involvement of religion in our mistreatment of the environment, the first is a causative agent, the second in potentially providing a model of the man-nature relation that will lead to a restoration of a proper balance between the two. In developing these two aspects, I shall follow the essence of the argument given by White.

Primitive religions were animistic, i.e. each rock, stream, tree, etc., or each hill, grove, etc., had its own spirit or soul. In at least the later versions of these religions the spirits of the particular place had to be placated before that place was disturbed, e.g., the spirit of a tree before that tree was cut down, or the spirit of a stream before the stream was dammed. One suspects that primitive man felt a close kinship with nature and that if he had a consciousness, so did the nature around him. Embodied in the Judeo-Christian Tradition is a progressive development of monotheism, its one God being in all places, coming to be viewed as transcending nature, and eventually above nature. Since man was viewed as being made "in the image of God", he was himself above nature and had dominion over it. The story in Genesis 2:19-20 of Adam naming the animals God had made is a symbolic representation of this dominion. Eventually this attitute combined with the Judeo-Christian idea of history came to be expressed as the progressive CONQUEST of nature by man. In this form the tradition remains even in the "post-Christian age." As White puts it, "Our daily habits of action. . . . .are dominated by an implicit faith in perpetual progress. . . .rooted in, and. . .indefensible apart from Judeo-Christian teleogy.

But this attitude has had severe ecologic consequences, thru its neglect of the impact of this conquest on conquered nature itself and thus, on the feedback from nature to man.

The estragement of the New Generation from the establishment is in part a rebellion against this conquest attitude. The attempts to overcome within themselves this attitude has followed two lines of mystical reconciliation of man and nature. The first of these is the rejection by some members of the Generation of Occidental Zen Buddhism. The appealing dogma here is the existence of a Universal Mind behind all superficial appearances of nature, in more Western terms of a one "god" immanent in both man and nature. Although the West has yet a lot to learn from the the Hindu-Buddhist world picture, I do not believe this tradition in its present form can provide a model of the man-nature relation useful in coming to grips with our ecological crisis. This tradition is too much oriented toward nirvana, a complete merging of man and nature to provide a model of partnership that seems to be needed.

The second attempt is at present largely in the form of an appeal to recognize our kinship with nature. We see it, e.g., in two lines from the Doors' composition, "When the Music's Over":

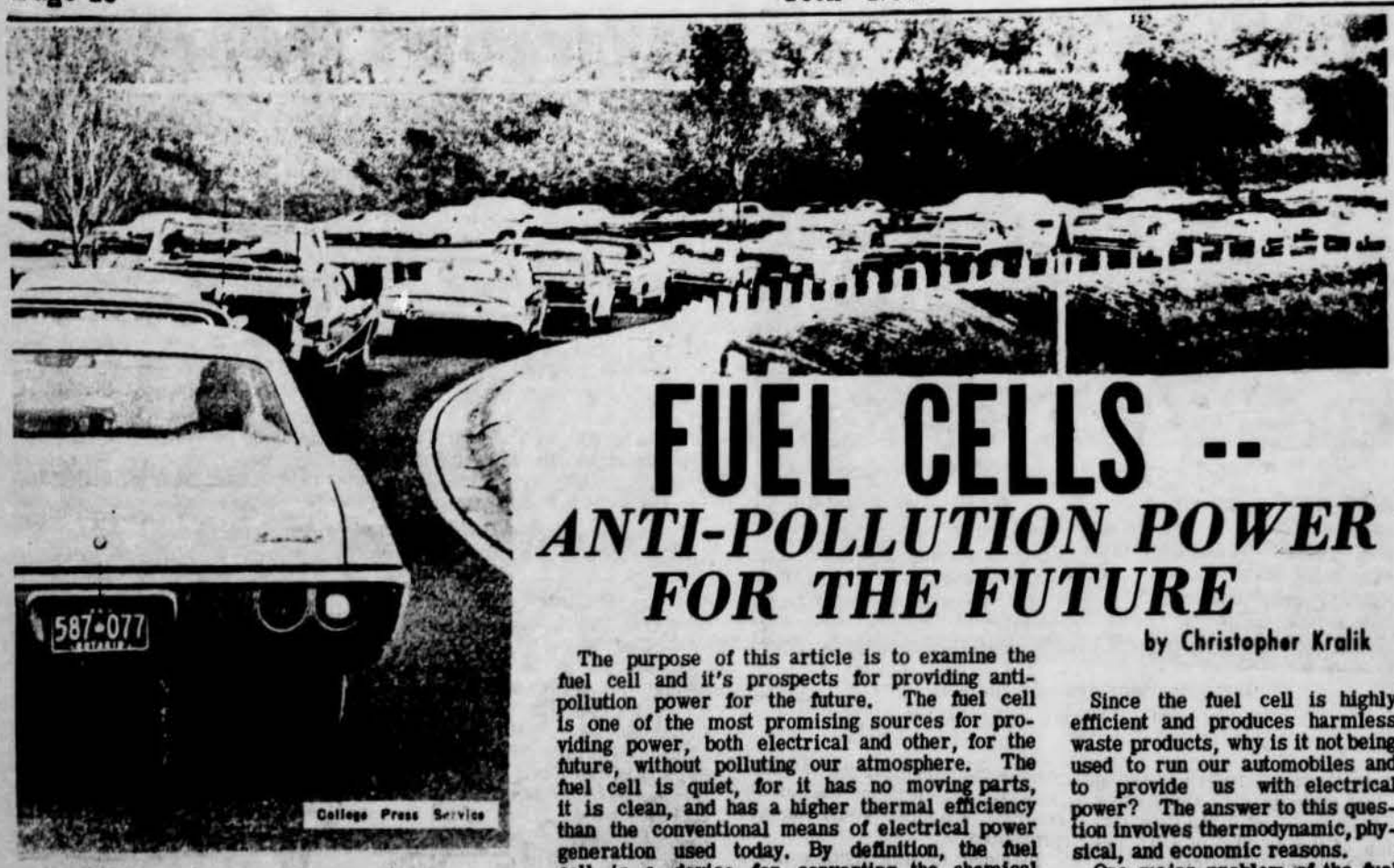
"What have they done to the earth?
What have they done to our fair sister?"

But this is reminiscent of a, until recently, forgotten theme of Christianity. The chief exponent of this theme is Francis of Assisi. Francis, a thirteenth century Hippie in almost all senses of the term, rebelled against the establishment, but more importantly proposed a positive alternative. He "tried to depose man from his monarch over creation and set up a democracy of all God's creatures," (White). This is and set up a democracy of all God's creatures," (White). This is reflected in his use of the terms "Brother" and "Sister" for the objects of creation. A line from his "Canticle of the Sun" presages the Doors by seven centuries:

"Be praised, my Lord, for our Sister, Mother Earth,
who holds us up and keeps us straight, yielding
diverse fruits and flowers of different hue,
and grass".

(Incidentally this theme finds a resonance in the Black Tradition in Uncle Remus' Br'er Rabbit, Br'er Fox, etc.). White brings the two counter-themes in Christianity together by pointing out that "The present increasing disruption of global environment is the product of a dynamic technology and science which were originating in the Western medieval world against which Saint Francis was rebelling in so original a way." Altho Francis provided Christianity with a new terminology for the man-nature relation, the idea of man and nature progressing TOGETHER was expressed by St. Paul. In Romans 8:20-22 he states, "Created nature has been condemned to frustration. . . . .that nature in its turn will be set free from the tyranny of corruption, to share in the glorious freedom of God's sons. The whole of nature, as we know, groans in a common travail all the while.

The idea of man's conquest over nature, that idea which gave us so much good, yet also led to our present environmental problems, is still with us; in fact it frustrates effective solutin of the problems when President Nixon and others characterize the situation as a "war between man and nature." We need to replace this idea with man and a different model of the man-nature relation, a model that puts both man and nature into a cooperative total system. Science and technology, because of their specialization and "amorality", are unable to do this--many observers believe that solutions to our present ecoligical problems are available in our present technology, but that Technology has not produced any drive or scheme for application thereof. Atheistic and agnostic humanisms are also unable to satisfy the need since they do not have enough conceptual power to generate a dynamic model of the man-nature symbiosis. It seems that only the Judeo-Christian Tradition can produce a family relationship that will reconcile man and nature.



FUEL CELLS -- *ANTI-POLLUTION POWER FOR THE FUTURE*

by Christopher Kralik

The purpose of this article is to examine the fuel cell and it's prospects for providing anti-pollution power for the future. The fuel cell is one of the most promising sources for providing power, both electrical and other, for the future, without polluting our atmosphere. The fuel cell is quiet, for it has no moving parts, it is clean, and has a higher thermal efficiency than the conventional means of electrical power generation used today. By definition, the fuel cell is a device for converting the chemical energy of reaction between fuel and oxidant directly to electrical energy.

The fuel cell was invented by Sir Humphrey Davey in 1802. For many years after it was considered merely a laboratory curiosity, until the late 1950's, when cells capable of powering electrical appliances, as well as small vehicles, were designed and built.

The theory of operation can be compared somewhat with that of a battery, although in a fuel cell the electrodes are not consumed in the reaction; they serve as a surface on which the reaction can occur. A fuel cell consists of two electrodes, separated by an electrolyte. Upon the anode or fuel electrode, the fuel is oxidized, and in the process electrons are given off. These electrons go through an electrical circuit having some resistance and are returned to the cathode where the oxidant receives these electrons and forms anions. The anions produced migrate to the fuel electrode through the electrolyte to take part in the oxidation reaction. This process can be illustrated by the following equations which describe the operation of a fuel cell using hydrogen gas as the fuel and oxygen as the oxidant.

At the fuel electrode:

$$H_2 + 2OH^- \rightarrow 2H_2O + 2e^- \quad (0.8\ v)$$

At the oxygen electrode:

$$\tfrac{1}{2}O_2 + H_2O + 2e^- \rightarrow 2OH^- \quad (0.43\ v)$$

Total reaction:

$$H_2 + \tfrac{1}{2}O_2 \rightarrow 2H_2O \quad (1.23\ v)$$

In such a process, the only end product is pure water. In cells using hydrocarbons as fuel, the end products include carbon dioxide, which is not yet considered a pollutant.

Since the fuel cell is highly efficient and produces harmless waste products, why is it not being used to run our automobiles and to provide us with electrical power? The answer to this question involves thermodynamic, physical, and economic reasons.

One major problem of the fuel cell is that of polarization. When higher amounts of current are drawn from the cell, more amperes of electric current are drawn from each square centimeter of electrode surface area. This condition intervenes with certain important processes such as transport of the fuel to the electrode, absorption on the electrode surface, and the transport of products away from the electrode. The result is a decrease in cell output voltage, referred to as polarization.

Another problem involves the catalyst upon the electrodes, used to break the fuel and oxidant down into usable forms. Platinum group metals are the only catalysts known, which will operate a high current densities. One estimate shows that a 100 kilowatt fuel cell system would require about six pounds of platinum. The world production of platinum group metal is about ten to the sixth power troy ounces per year.

Another drawback of the fuel-cell system is high weight and volume per kilowatt produced, even volume per kilowatt produced, when compared with today's internal combustion engine. Ironically, a present day internal combustion engine has a lower weight per kilowatt than that of conventional electric motors without the power supply.

Thus the fuel cell is still in an experimental stage of development. It remains a very costly item for everyday use when compared with other means of producing electricity. It does, however, provide hope for the future, in supplying man's need for power, electrical and otherwise, without polluting our atmosphere. The dependability of the fuel cell has been proved by NASA in it's key role for providing electrical power aboard most of the manned flights thus far.

HOW DO YOU THROW YOUR CAR AWAY?

by Claude Lemoj

Anyone who has driven past a scrap-iron yard full of old and shattered automobiles can testify to the fact that this is not a pleasant sight. This alone, however, presents no major problem, since mere screening could solve that. The truth is that what we see is like the visible part of an iceberg--the proportions of the entire situation are not readily recognizable.

The junked-car problem has become enormous, and it's getting worse as more and more cars hit the scrap pile each year. There are already forty-million of these hulks piled on the growing junk heaps from coast to coast, with about seven million more being added each year. This in itself presents a big obstacle to any clean-up effort even before it's started.

And yet, this is not the major part of the problem, for there are other reasons why it's even happening in the first place. The scrap industry would have the capacity to process more old cars, if they would only reach the scrap cycle more quickly and efficiently. One of the biggest reasons they don't is that most unwanted cars are merely abandoned some where, since the owners don't wish to bear any financial responsibilities: this slows the process considerably, with legal as well as financial impediments. When these cars finally do reach the auto wrecker's yard, they must be stripped of all the glass, wood, fiber, etc; before they are even ready to be put into the scrap cycle.

And after all this, even reaching the scrap cycle is useless, because the demand for reprocessed metal scrap just isn't sufficient. This, in fact, is the central problem which obstructs the movement of the entire cycle: Steelmaking trends are all against the scrap dealer, both in the quantity demanded and the value placed on automotive scrap. Because of newer, more efficient processes, the steel industry needs a higher grade of raw material, and reprocessed cars don't meet the requirements. The industry, therefore, is not willing to pay a very high proce for this type of scrap, which is costly for the scrap dealer to process in the first place. So most of our metal junk continues to accumulate because of the value of the scrap as a reusable raw material doesn't match the excessive costs of separating and sorting out the various materials.

Clearly, something must be done soon, not only because of the big smudge on this country's beauty, but also because domestic supplies of virgin metals are not limitless, and some of them are becoming depleted.

Solutions to the problem lie in all three of the major areas of the scrape cycle: 1) the junking of old cars 2) the use of the hulks; and 3) the use of scrap in steel production.

First of all, it should probably, be the function of government to insure that owners become responsible for the disposal of their old cars. Secondly, the methods of processing can be improved upon and the costs decreased. And finally, most importantly, methods must be developed to make it feasible for the steel industry to absorb the nation's scrap.

In conclusion, this problem only illustrates the fact that we are truly a nation of users, and not consumers. The automobile is only one of many things for which we must find a suitable means of disposal or reuse after we have finished using them.

CAR AS POLLUTER

(CPS)--Air pollution is like the weather--everyone talks about it, but no one does anything about it. What can you do about it? After all, it's those giant factory smokestacks that make our air dirty.

The automobile is responsible for sixty per cent of the air pollution in the United States, (Environment Magazine, October, 1969). The internal combustion engine is a grossly ineffecient machine. At best it uses 25% of the energy of combustion for mechanical power, the remainder is given off as heat. The next time you put four dollars worth of gas in your tank consider the fact that only one dollar's worth of that gas is being used to drive your car, the other three dollars' worth is merely heating up your engine and the air around it. Of course the oil companies and state government are still collecting those three dollars.

The internal combustion engine liberates various poisons as by-products of the burning of gasoline. Some of the more familar ones are: carbon monoxide, hydrocarbons, nitrogen oxides and lead. In 1967 the government spent 3.2 million dollars on research on emission controls for the internal combustion engine and only $115,000 on research for low-emission alternatives to it. A clear-cut case of treating the sumptons but not the disease.

If the government was serious about pollution control, it would seem logical that it require the auto industry to research and develop an alternative to the internal combustion engine. At present none of the big three car makers are doing any research in this area. They are, however, spending large sums to fight antitrust suits over their production of emission-control devices. Presumably it would be tremendously expensive to re-tool the factories, so we're stuck with the ecologically obsolete engine as our only choice when buying a car.

If everyone drove a car that got 30 miles to the gallon instead of 15, we could cut our automobile air pollution drastically and also help conserve our rapidly dwindling petroleum resources. It is estimated by the Committee on Resources and Man of National Academy of Sciences that by the year 2010, forty years hence, 90% of the world's crude oil will have been used up. This is a conservative estimate and assumes a diminished rate of use after 1980 due to scarcity.

BEWARE THE
IDES
OF JUNE
S. F.

FRESHMAN SHARE PAPERS FROM ENVIRONMENT COURSE

"Introduction to Environmental Problems" is a freshman elective which was offered for the first time last semester and its relevance to today's modern world is increased as we become more concerned with the plight of our troubled environment.

The course is administered by the Chemical Engineering Department and is being taught by Dr. Imre Zwiebel and Prof. Clifford Lantz. Dr. Zwiebel is of the Chemical Engineering Department while Prof. Lantz is a Civil Engineer assigned to the Alden Laboratories.

Recognition has been given to the relation between technological advances and evironmental problems, such as water and air pollution. The object of the course is to familiarize the student not only with these problems but to investigate the "methods used for detection, measurement and control of such conditions, including development of anti-pollution devices."

Although under the general heading of Chemical Engineering, the course is multi-discipline. Experts in all phases speak at the lectures on such relevant topics as public involvement, laws, statutes, civic responsibility, city and state control, and what industry is doing.

Required of each student is a term paper on a topic of interest to him or participation on a team project. It is hoped that for perhaps a few the project will become a continuous one which might perhaps be used in work toward higher degrees. Laboratories are available to those interested in doing original experiments. One student has been involved in the determination of the amount of DDT released by home insecticides.

The team project currently under development is the design of a plant facility that can handle the solid waste material of Worcester County. The proposed utility will be investor owned, and to make it economically feasible, methods of recovering raw material from the waste must be designed. Disposal of the final waste product must be within the scope of eliminating much of the pollution that exists today. All factors of the design must meet municipal and state laws and all complications that an industrial developer would face are presented.

Included in this section of the TECH NEWS are summaries of reports presented last semester in "Introduction to Environmental Problems." They are::

"How Do You Throw Your Car Away?" by Claude Lemoi, pg.

"Fuel Cells" by Christopher Kralik.

"Thermal Pollution" by Tom Landuehr.

"What CAN You Do?" by Richard F. Socha.

Institute Pond reveals some of man's effect on his environment

Mankind's Inalienable Rights

by Paul R. Ehrlich

from The Population Bomb

1. The right to limit our families.
2. The right to eat.
3. The right to eat meat.
4. The right to drink pure water.
5. The right to live uncrowded.
6. The right to avoid regimentation.
7. The right to hunt and fish.
8. The right to view natural beauty.
9. The right to breathe clean air.
10. The right to silence.
11. The right to avoid pesticide poisoning.
12. The right to be free of thermonuclear war.
13. The right to educate our children.
14. The right to have grandchildren.
15. The right to have great-grandchildren.

Worcester demonstrates how US changes nature more than other nations

Think about it - how often have you added to a situation like this?

WICN Earth Day Coverage

12:00 - 3:00	Tapes of Morning speeches by Prof. Koontz, Zwiebel, Neate, Kesheron, Graubard
3:00 - 3:30	Music, readings related to environment.
3:30 - 4:30	Holy Cross Panel discussion from Ballroom Hogan Center, Live. Dr. Trowbridge Ford — "Political Implications of environment Control" Dr. R. Cahill — "Economic Problems of Environment Control" Dr. Fallon — "Social Problems of Environmental Control" James Arnald, form Central Mass. Regional Planning Commission — solid waste disposal and pollution. Charles Watson, Central Mass. Planning Com. — "Planning in Centrad Mass. to the Present"
4:30 - 5:30	Tape of Urban Planning Panel discussion held in library Seminar room.
5:30 - 6:00	Music etc.
6:00 - 7:00	Tape of Socio-Economic Problems of Pollution Control from Library Seminar room.
7:00 - 7:30	Music etc.
7:30 - 8:00	From Holy Cross — Allen Cooperman (live) on Water Pollution

(remaining program has not been determined as of 4/19/70

US Declared Most Overpopulated

By Wayne H. Davis College Press Service

(Davis is a professor of Biology at the University of Kentucky).

(CPS)--The United States is the most seriously overpopulated nation in the world today. I define as most seriously overpopulated that nation whose people by virtue of their numbers and activities are most rapidly decreasing the ability of the land to support human life.

Compare the U.S. to India, for example. We have 203 million people and they have 540 million on much less land. But let's look at the impact of people on the land.

The average Indian eats a few cups of rice a day, draws a bucket of water from the communal well and sleeps in a mud hut. In his daily rounds to gather dried cow dung to cook his rice he has a rather small impact on his environment. He does not clamor for highways, jet-ports, and steel mills.

An American on the other hand, will destroy a piece of land on which he will build a house, garage and driveway. His employer will destroy a piece of land to provide him a parking space as will the developer of his shopping center. The government will provide him a road to his house and a piece of ground on which to dump his daily eight pounds of garbage.

With 38 times the per capita GNP of the Indian, our citizen's demand for the latest fashion will cause cotton farmers to kill the southern streams with endrin, his demand for power will cause the miners to kill streams with silt and acide, and his (manufacturer-induced) demand for steel to replace last year's auto will cause U.S. Steel Corp. to kill the Great Lakes by increasing the daily equivalent of 130,000 junked autos Life says it dumps into Lake Michigan. And in hundreds of ways he will contribute to the pollution of our oceans causing the final death of our fisheries which the Commerical Fisheries Review for October 1969 described as a "national problem" and a trend which has "become precipitous in the past seven years."

To supply him with his 26,000,000 gallon of water to pollute in his life-time we will build a reservoir and flood the farmland. He will contribute his share to the annual 142 million tons of smoke and fumes whch killed the spinach industry in southern California, are killing forest trees and decreasing the amount of sunlight reaching our land. He will contribute his share to the annual load of seven million junked cars, 20 million tons of paper, 48 billion cans, 26 billion botties, and a rapidly increasing number of plastic Chlorox and antifreeze containers our environment is expected to absorb each year. He will poison the land with the lead, nickle and boron from the 21,000 gallons of gasoline he will use in his lifetime.

He will eat 10,000 pounds of meat. To supply this demand, cattle will eat plants on western range land and the nutrient minerals are passed to our friend who flushes them down the toilet and into the ocean. This life pattern, unknown in the Orient, has joined overgrazing, erosion and lowering of the water table by pumping out groundwater for irrigation and city and industrial use, to hasten the destruction of our land's capacity to support people.

Because the American is far more destructive of his land than citizens of other overpopulated lands are to theirs, I want to introduce a new terms which I suggest be used in all future discussions of problems of human populations and ecology. We should speak of our numbers in "Indian equivalents" or IE. An IE I define as the average number of Indian citizens required to have the same detrimental effect on the land's ability to support human life as would the average American. This value is hard to determine. I take a conservative working estimate of 25. My Indian friends says this is much too low. One person suggest to me 500 as more realistic. But let's use 25 as our IE.

In terms of IE, then, the population of the U.S. is four billion. And the rate of growth is even more alarming. We have by far the most serious population growth problem in the world. We are growing at one per cent per year, a rate which would double our numbers in 70 years. India is growing at 2.5 percent. Using the IE of 25, our growth rate would be 10 times as serious as India's if our people had their life expectancy of 35 years. With our expectancy of 70 years, our growth problem becomes 20 times as serious.

But this cannot be true, you say. I am playing with statistics. You are right, I am assuming 70 years life for today's baby at today's level of affluence, and such an assumption is absurd. If we continue population growth or rape of the resources, or both, IE will drop so drastically that by the year 2000 we may think the average Indian is fortunate.

So we should not worry about the hungry nations. The tragedy facing the U.S. is greater and more imminent than theirs. India will be there after the U.S. is gone. She will have colossal famines, but the land will survive and she will come back as she always has before.

Our citizens vary tremendously in IE. If we plot IE vs. its reciprocal (the percentage of land surving a generation), we obtain a linear regression. Now if we place occupation types on this graph we would find the starving Blacks of Mississippi on one end. They would approach unity in IE and would be least destructive of the land. At the other end of the graph would be the politicians slicing pork for the barrel, highway contractors, real estate developers and public enemy number one--the U.S. Army Corps of Engineers.

What Can You Do?

by Richard F. Socha

Adams, Massachusetts is a small town in the northwestern corner of the state. It is divided and drained by the Hoosic River, which flows through it in a northwesterly direction and eventually empties into the Hudson River in New York. The population of Adams is 12,700 and its major industries are textiles, paper, paper products, lime, and chemicals.

Until this year, the town had no facilities for the treatment of its sanitary or industrial wastes and had been dumping all of its sewage directly into the Hoosic without any treatment at all. As far back as the 1930's several reports were made by the Massachusetts Department of Public Health and several private engineering firms, showing the objectionable conditions of the river and recommending the construction of a secondary sewage treatment plant. Following these reports, the town purchased a site for the plant but none of the recommended facilities were ever built.

In 1961 the river as it passed through Adams was classified according to the Massachusetts Water Quality Standards as a Class C stream, unsuitable for bathing, recreation, fish or wildlife, suitable only for industrial use or boating. This made it mandatory for Adams to treat its wastes prior to discharging them into the river. A group of concerned citizens decided to act, and finally the town engaged Camp, Dresser & McKee Consulting Engineers, to operate a pilot scale plant, study the wastes, and prepare a report on the most feasible method of treating the combined wastes of Adams. Studies were made of population trends, wastewater flows, and the quality and quantity of industrial and sanitary wastes. Measurements were made of the dissolved oxygent content and B.O.D. (Biochemical Oxygen Demand) of the river, and from the data collected, an activated sludge treatment plant was designed and is now being built.

It took Adams quite a few years to realize the way they were poisoning their environment, but they finally did realize and did something about it. If only more of us would think about our environment once in a while, perhaps someday our children might live in a clean world again. It's only a dream now but if we all do our share, there is no reason it cannot be achieved. But the important point is that we must ALL do our part. You ask what you can do? Why not start with examining yourself? What do you as an individual do that harms the environment? After you've done that, why not find out if your town has the proper facilities for the disposal of its sewage, trash, garbage and other wastes. If it doesn't have them, find out why, and what you can do about it. Don't wait for someone else to do it, because everyone else is waiting for YOU to do something.

Dr. David Todd, Professor of Chemistry

Pollution Steps Into Hot Water

by Tom Landwehn

Probably one of the greatest pollution problems facing today's world, the problem of heated water, or Thermal Pollution, is also threatening to be one of the most dangerous problems we face. The entire problem stems from the fact that with increased demand for electric power in this country, the demand for river, ocean and lake water as a coolant for generating systems has increased with such magnitude that the nation can no longer supply the amounts of water needed without harming its ecological balance. To be more specific, experts in the electric power industry estimate that by 1980 thermonuclear production in the United States, including both nuclear and fossil-fueled plants, will require 200 billion gallons of water per day - roughly one-sixth of the total nationwide runoff. By the year 2000, the amount of water needed is expected to be equivalent to a third of the nation's daily run-off and during low-flow summer months oftentimes as much as 100% of our fresh water.

The seriousness of the problem deals with the ecological effects of heated water - a usual 10 degree increase in the case of nuclear plant discharge - on fish and marine plant life. Scientific studies have indicated very clearly that the vast majority of fish species are not able to adapt themselves to a rapid increase in water temperature, even if it is only a few degrees. There have been cases in which large numbers of fish have been killed within hours by rapid temperature changes caused by power plant discharges, but more importatnt are the long range effects on the plant and animal life cycles. Here is another case in which technological advances have indirectly caused permanent life mutations, a serious threat to the future.

The United States, then, faces a dilemma: Do we consider our underwater life important enough to us to curtail the production of nuclear power that is so vital to our ever expanding cities and industries? Or do we have the means to control thermal discharge?

Many different control procedures have been suggested for thermal pollution, but none have proved themselves beneficial on the large scale needed, or, if so, within the price scale required. One pollution point of view is that there exists no problem if it costs more to correct a situation than it does to let it go, but who is to decide the monetary value that is to be attached to our wildlife? With the power industry expanding as it is, the cooling tower control methods, use of large cooling ponds, and other methods for cooling water on a small scale prove uneconomical. Other considerations have included use of the heated discharge for agricultural purposes and possibly for heating buildings, but on such a large scale these methods to have proved inadequate. Probably the best means for eliminating the problem would be to design more efficient power plants on a large scale that would not require the use of water for cooling purposes at all. Such plants are under study but are found to be far less efficient than the conventional plants.

The problem of thermal pollution, then, must be solved, or at least brought under substantial control, within the next decade. Today's power industries must be forced to stop polluting our waterways - if not from chemicals and filth, from heat, even if it will require an increase power price rate. It all amounts to whether or not a 1% increase in the cost of electricity is to much to pay for a glass of cold water.

Look Beyond DDT Eliminating Pests:

by Dr. David Todd

Since it has become very clear that the use of non-specific broad-spectrum pesticides such as DDT, dieldrin and parathion against disease-causing and crop-destroying pests leads to severe ecological imbalance as these lethal materials pass down the food chain, there is a pressing need for alternative means of controlling these pests. To ban DDT is not enough; millions of humans now live on the edge of starvation, and as of today DDT is still the cheapest means available to underdeveloped countries for controlling many insects. To remove DDT in India today, for instance, would automatically condemn countless thousands to death from malaria, as DDT is the principle means of controlling the malaria-spreading mosquito.

There are some novel control methods that have recently been devised that provide promising answers to these problems. The trend is to devise a particular biological control method that fits just the one target pest.

One method is to use the sure-fire attraction of sex. It seems likely that every insect species has, in the female, a specific sex attractant--a Chanel #5 -- which appeals to the male and enables him to zero in on the right lady without getting her confused with a corn borer or a gypsy moth. The chemist has to first collect a few kilograms of the insect and proceed to separate the sex attractant, using a biological technique that I leave to your imagination. The attractant is present in incredibly small amounts, so that the chemical structure problem must be solved using sub-micro methods. When the structure is elucidated, the problem of laboratory synthesis is undertaken, so that relatively large amounts of the attractant can become available for field use. This whole procedure has been applied with success in the case of the gypsy moth, and the synthetic Gyplure is now sprayed in areas where the male is unlikely to find a mate. Because of his limited flying range and short life cycle this diversionary expedition prevents his ever making it.

A variant on this theme is used to control a pest, the army screw worm that infects cattle in the southern U.S. via cuts in the skin. Control is achieved by irradiating millions of young males to render them neuter; these are then dropped by plane in infected areas where they mate with the local females -- but the union is not blessed with issue.

Another tack was actually tried many years age (without success in this case) in Massachusetts to control the ordinary dog tick that blossoms out about this time of year, and is the bane of all dog owners. The idea was to find some organism that will spread to a tick and kill it. Such a microorganism was found, and a lot of infected ticks were planted on Naushon Island, the idea being that ticks get together enough to cause the spread of the disease. Alas, next spring the bug had vanished and the ticks were back stronger than ever.

But this approach is now being used against a very destructive moth, Heliothis zea, which, though a small critter, accounts for some $300 million worth of crops loss annually in the U.S. alone. A bug that likes to live in H.z. has been cultured and pampered to the point where it now produces massive amounts of a toxin that paralyzes the digestive tr[illegible] This bug and its virus is very specific for H.z. -- it will N[illegible]IR digestive tract, and that's the whole point.

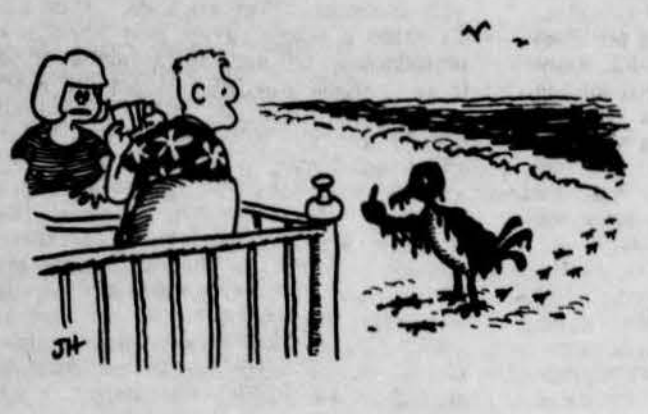
Another ingenious trick is to [illegible] edient of elm wood, for instance, attracts the elm beetle, the vector of the Dutch elm disease. Two such feeding attractants have just been isolated from elm wood and their structures worked out. Presumably the next step is to put a shot of attractant on fence posts around the property and the first thing you know the beetles are misled and probably will perish of frustration and hunger.

Another clever use of feeding attractants is already in use. In the case of corn the attractant for a certain pest was identified, and its amount in many hybrid varieties of corn accurately determined. Then new strains, bred for low attractant levels, were developed, and presumably we can expect to develop a strain that is totally unappealing to this pest.

There are plenty of really serious pests to go after in this specific manner. One major unsolved problem is the control of schistosomiasis (bilharzia), a disease that probably afflicts more humans today than any other. It is transmitted by a water snail--and whoever devises a practical method of eradicating this disease will take his place among the immortals of medicine.

The ecologist will point out that if in fact a large population of gypsy moths has produced a large number of snowy owls, for example, as a result of a complex ecological situation, then reducing the gypsy moth population will doubtless cut down the number of owls. There is no way out of this dilemma, and one can only be consoled by the gain-and-loss balance struck in the transaction. Remember, we are only stuck with a lot of boll weevils in Georgia because man decided to raise a lot of cotton there. In the last analysis it is really the astounding population explosion of man that lies behind the insect "problems" -- which did not exist on a massive scale till we created them.

These modern methods of pest control -- and there are others I have not mentioned -- are possible only because of our high level of technological development. An enormous amount of training in a bewildering variety of scientific disciplines lies behind the development of any one of these sophisticated pest control techniques. The health and nourishment of 3.5 billion humans is rapidly becoming dependent upon the resourcefullness with which a handful of specialists in the most scientifically advanced nations deal with the pest control problem. It can honestly be said that never have so many been do dependent for their future on so few.



"WELL... IT LOOKS AS IF WE'VE JUST ABOUT PUSHED OUR ENVIRONMENT TO ITS LIMIT."

Jim Hilger College Press Service Daily Illini

OBITUARIES

THE GREAT LAKES

(CPS)--"When I lived in Chicago during the summer of 1967," says Michael Doran, lecturer in Music at McMaster University, "my apartment was situated about seven blocks from the shores of Lake Michigan (otherwise known as Gitchy-Gooey).

"Most days the smell of dead fish penetrated into my living room, even when the windows were closed.

Turning on the hot water one was invariably greeted by the smell of dead fish competing with that of chlorine. It was possible to make coffee and tea, but the stuff was undrinkable.

"From within a stone's throw of the lake one could survey the magnificent solid silver band of rotting fish which lined the shore at the exact formal distance of five yards. Ah, Chicago! Ich habe lust vor dich!"

Meanwhile, the Great Lakes are dying.

Lake Erie has had it. In the last fifty years the effect of human waste and alterations in the evironment has aged the lake 15,000 years.

Lake Michigan is perilously close to the point of no return. Its southern stretches are heavily polluted and contaminated, and this destruction is steadily spreading northward.

Lake Superior remains the purest of the lakes, while pollution in Lake Ontario is rapidly attaining critical proportions. Lake Huron stands as something of a halfway house between the purity of Superior and a cesspool that is Erie.

Taken together the Great Lakes drainage system constitutes the largest single body of "fresh" water in the world, containing better than one-fourth of the world's supply.

In this case the word "fresh" is used only to distinguish the water from ocean brine, since in many cases the water in the Great Lakes is no more palatable than ocean water, and considerably less pure.

The entire Great Lake basin supports a population well in excess of 30 million, compared with fewer than 300,000 early in the nineteenth century. This figure represents about one in eight Americans and about one in three Canadians.

By 1965 the water levels of all five lakes had dropped to their lowest levels in recorded history. Erie and Huron were some five feet lower than during the early fifties.

This does not mean much until one realizes that a drop of one foot in the Great Lakes water level results in a loss of some 2.75 trillion cubic feet of water.

This loss and all other changes which have taken place in the Great Lakes are attributable to a single cause: man. However, what man has done to the lakes, and what he continues to do at an accelerating rate involves many complex questions.

While Lake Superior is the largest and the purest, it is also the most delicate of the five. Being relatively cold and pure, the lake is more drastically affected by even small increases in pollution.

Hence, while remaining "pure" by human consumption standards, fish catches have declined drastically since World War II. The annual catch is now about one-third of what it was in 1941.

Further, the lake's purity and coldness means that it reacts more slowly in recovering from pollution damage than might, say, Lake Erie (were it not for the fact that Erie has been subject to immense pollution). The self-purging rate of Lake Superior has been estimated at well over 500 years--i.e., that is how long it would take for the lake to clean itself naturally.

Two examples of industrial pollution will suffice to indicate the great danger present to Lake Superior, as well as to all drainage basins. They are refining of low-grade Taconite iron ore and the pulp and paper industry.

Taconite refining is a complex procedure of crushing and grinding the ore into fine particles and magnetically separating the iron from the residual dust and concentrating the iron into pellets of magnetite. In the process some ten thousand gallons of water are used in order to produce a single ton of iron pellets. The waste residual of dust, or tailings, is produced at a rate of about two million tons per million tons of pellets. These tailings included a variety of dangerous metals, such as zinc and cadmium.

The process of destroying the environment in order to produce paper begins with the cutting of logs. Even assuming that a given woodlot is "farmed"--that is, replanted and not recklessly mowed down--the shipping of logs to the mill entails considerable destruction. Rivers are bulldozed so that the logs will not be caught by obstacles on the way to the mill. This bulldozing of river beds certainly removes rocks, branches, and other obstructions. It also destroys the spawning grounds for sturgeon, trout, and salmon. It is the pulp mill part of the process which is a major polluter of water, and the chemical recovery process which is a major polluter of the air.

The pollution problems that begin in Lake Superior are duplicated in Lake Michigan. There, heavy concentrations of industry produce vast quantities of chemicals and sewage, the better part of which are dumped raw or only partially treated into the lake.

There are more than twelve major fossil-and nuclear fuel thermal power plants along Lake Michigan. These produce what is called "thermal pollution". As part of the production of electricity these plants must use vast quantities of water as collants.

Fish are especially vulnerable to thermal changes in water. Their susceptibility is during reproduction, when their range of permissible temperatures is quite narrow.

The accelerating growth of industrialization, of industrial populations, of irrigation in agriculture, and of thermal electric power stations entails a rapid increase in water usage. Water that is already polluted can, we expect, be only polluted more.

The use of pesticides has been so loosely controlled over the last few decades that these now permeate the environment. The large fruit belts around Lake Michigan, Western Lake Erie, and the Niagara region off Lake Ontario, are major sources of pesticides which end up in the lakes.

Lake Erie constitutes a sad, sad story. The central core of the lake is dead, a desert which already cannot support most kinds of aquatic life.

There is occuring a serious oxygen -depletion in Lake Erie over the summer months. As a result, an iron compound is beginning to break down, releasing the nutrients in the sediment. These nutrients are particularly welcome to algae which thrive upon them.

If the process of oxygen depletion continues it is quite conceivable a catastrophic bloom of algae will, within a few years, turn Lake Erie into a huge swamp, rendering it unfit for recreation, navigation, and a source of water.

Lake Ontario is rapidly following Erie in terms of pollution. Excess nutrients already have turned many popular beaches into ghastly spectacles of rotting scum and algae, unfit for any kind of human use. Oil and chemical spillages and seepages are inexorably destroying the wildlife in this lake as in all the others.

At present rates of destruction, we well not have long to wait before the limit will have been reached and passed, as it has been reached and passed in Lake Erie, when remedial action will have come too late.

Human discards disfigure yet another shoreline

...And Pollution rushes in.

Oil slick pollutes lake shoreline

CLOSER TO HOME: CLEAN QUINSIG

On Saturday, April 11, one of the first environmental projects took place when Lake Quinsigamond clean-up was attempted. Started by the Clark University Environmental Action Committee, workers came from local communities and student groups.. Spending the morning cleaning the edges of the lake is more than just a one day job as the twenty Tech students found out. The Clean-up took place at the Shrewsbury boathouse, White City Plaza and near the 290 bridge.

Objects ranging from shopping carts to car fenders were pulled from the lake. Some displays were set-up and then all of the trash was trucked away. More days are planned for the Quinsig Cleaning, where students along with the community can work for a common cause.

Two volunteers shop for trash along Lake Quinsig

FOR FUTURE CLEANUPS SEE DOM FORCELLA

Trash brought up from behind White City on Route 9

STUDENT ECOTACTICS

by Phil Semas Chronicle of Higher Education

College Press Service

(CPS) -- Weston Fisher, a graduate student in ecology at the University of Minnesota, put an ad in the student newspaper last spring announcing the formation of a student group concerned with environmental problems. There were 35 people at the first meeting.

Today, his group, known as Students for Environmental Defense, has 150 members and is still growing. Its development and activities are fairly typical of the growing concern among students about such environmental issues as air and water pollution, the effects of the population explosion, and preservation of natural resources.

In November, Students for Environmental Defense buried an internal combustion engine in a mock funeral protesting pollution caused by automobile exhaust.

In December, they picked up 26,000 empty cans along the banks of the Mississippi River, put them in a truck and took them to the American Can Co. plant in St. Paul. They attempted unsuccessfully to get the company to take back the cans and reuse them.

They also held a silent protest when speakers refused to permit questions and discussion from the floor during a meeting called by the university to discuss industrial uses of nuclear power. The speakers finally relented and allowed the students to present their view that more local contro of nuclear power is needed.

For their next project, Students for Environmental Defense plan to place signs saying "Unfit for Body Contact" along the Mississippi River from Minneapolis to New Orleans.

Dozens of such groups have been organized around environmental issues on college campuses during the past few months. Their activities have been similar to those of Students for Environmental Defense, although the Minnesota group has used demonstrations more than many groups.

Much of the student activity has involved efforts to educate the public about dangers the environment faces.

For example, Ecology Action, a Boston University group, has picketed the state capitol, handed out leaflets in the local community, organized lectures, held a pollution film festival, and presented a mock pollution award to a power company.

Students at the University of Washington staged a "learn-in" on environmental problems and are preparing an 80-page report on pollution of Puget Sound.

One of the most ambitious projects has been conducted at the California Institute of Technology. Students there, as part of a wide-ranging student-run summer research project, have investigated such things as urban smog, pollution of the ocean, and the political aspects of environmental issues. Reports on the research have been sent to public officials and citizens groups concerned about pollution. The research project has received more than $100,000 in foundation funds.

Most of the demonstrations held by environmental activists have been symbolic protests, like those at Minnesota, rather than confrontations.

Students for Environmental Control at the University of Illinois removed approximately six tons of refuse from a nearby creek, persuading city officials to continue the removal and to develop a beautification plan for the creek.

The only real confrontation occurred at the University of Texas, where 27 students were arrested when they climbed into trees which were scheduled to be bulldozed for a new football stadium.

For the most part, however, students have concentrated on campaigns and legal actions against particular companies and groups that they feel are polluting the environment or destroying natural resources.

Illinois students opposed a $70-million army engineers' dam project near Decatur. As a result, the university agreed to commission an engineering firm to produce an alternative plan.

The Nature Conspiracy, a group at the University of Oregon, is trying to save French Pete, a 19,000-acre timber stand on which the U.S. Forest Service plans to permit logging.

A group of students in a sophomore liberal arts seminar at the University of Wisconsin at Green Bay collected samples of water from the bay itself and analyzed them for pollution content. They mailed samples to legislators and industrial leaders and circulated petitions calling for greater concern by the government and industry for ending pollution.

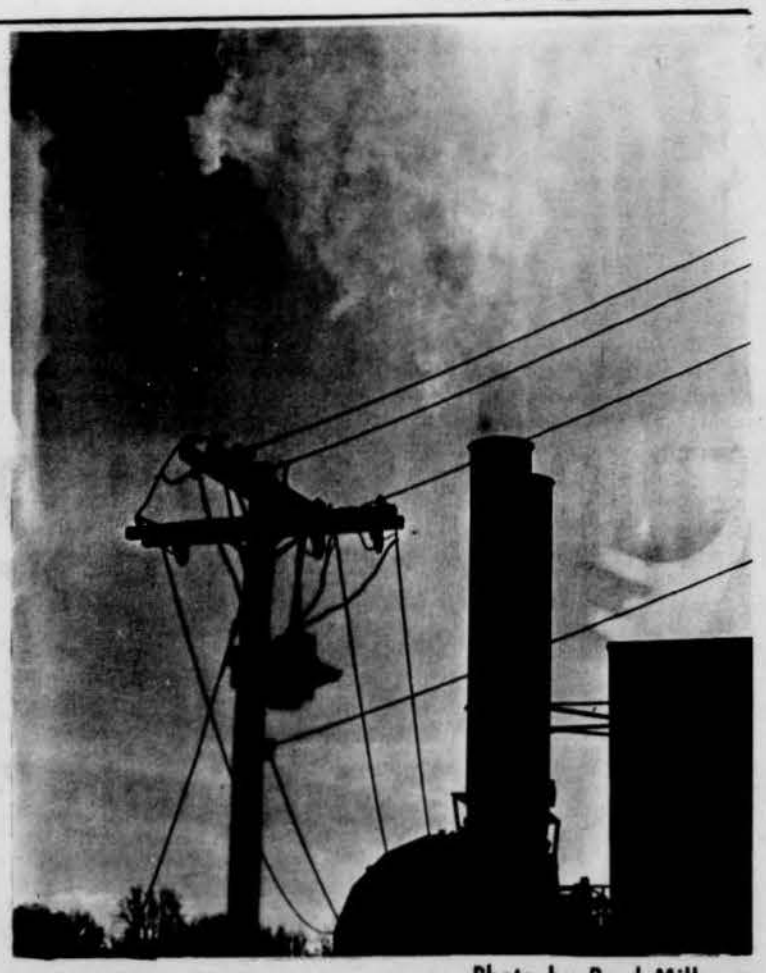


Photo by Brad Millman

ECOLOGY MAJOR

New London, Conn. - (I.P.) - Connecticut College has created a new interdepartmental major in human ecology, which has been designed by Dr. Richard H. Goodwin, chairman of the botany department and widely recognized for his unceasing efforts to preserve remaining open spaces from further human devastation.

Under his guidance the new human ecology major has been developed to train scientific practitioners who can provide ecological guidance and help prevent environmental upsets before they occur.

"There are quite a few institutions now training people in environmental science as a technical discipline. What is different about the new human ecology major is that it hopes to prepare students for social action," Dr. Goodwin pointed out.

He has structured the program to give students a thorough knowledge of the environmental sciences and to acquaint them also with the economic, governmental, and sociological issues involved in the uses of natural resources.

Moreover, the human ecology program will directly involve undergraduates in constructive action programs even before their degrees are awarded. Its intensive nature and the breadth of allied fields it covers are indicated by the variety of courses required for the new major.

The basic scientific structure will be built on lectures and laboratory work in biology, bioecology, botany, microbiology, and invertebrate zoology.

To these students must add another nine courses, some dealing with the human factors in environmental issues: economic development and public finance; American government and politics at urban, state, and federal levels; social problems in contemporary America, in modern communities and in minority groups.

Electives in the sciences will provide deeper insights into geology, chemistry, genetics, and evolution, radiation biology, anatomy, physiology, and marine biology.

All of this diversified learning bears directly upon the broad area of sane resource management. Drawing upon it, majors in their junior or senior year will undertake an individual study or an honors study on a specific environmental problem.

They will also take an advanced seminar covering such topics as air, water and thermal pollution; preservation and use of open space; regional planning; food production; population dynamics.

EARTH DAY ACROSS THE NATION

(CPS) -- In Washington leaders of the group coordinating the national teach-in--which now calls itself Environmental Action--said they expect students from more than 600 colleges to participate. They expect as many as 1,300 high schools and many community groups also to be involved.

Activities which the coordinators say will take place in some communities and on some campuses on April 22 include:

-- Seminars, courses, and mass meetings on environmental issues.

-- Such "dramatizations" as the presentation of satirical awards to polluters, burying automobile engines, turning spotlights on belching smoke-stacks, touring industrial plants, and gathering garbage and returning it to its producers to be re-used.

-- Drafting model pollution laws and preparing anti-pollution lawsuits.

-- Demanding the establishment of university offices of environmental planning, to see that the institutions are not polluters.

-- Marches and rallies at sites of pollution.

-- The presentation of pollution film festivals, concerts, and photo displays.

-- Writing and distributing reports on local pollution problems.

-- Sit-ins or phone-ins to try to immobilize the operations of corporations deemed guilty of pollution.

WHERE WILL YOU BE?

Photo by Dave True Suds in Stream

SPRING WEEKEND 1970

FRIDAY, APRIL 24 SATURDAY, APRIL 25

"The Age of Aquarius"

Featuring:

DAVID FRYE

and

THE ASCENSION

11:00 AM Chariot Race

2:00 PM Baseball:
WPI vs Coast Guard

8:30 PM Judy Collins
in Concert

JUDY COLLINS

SUNDAY, APRIL 26

3:00 PM

Worcester Art Museum

PAUL ZUFOSKY

PAUL ZUFOSKY

Paul Zukofsky, the brilliant young violinist and composer, will be featured at a concert on April 26 at 3 p.m. at Alden Hall on the campus of Worcester Polytechnic Institute. The free public concert concludes the 1969-70 music series sponsored by the Worcester Art Museum in collaboration with the undergraduate student body of Worcester Tech.

At 27 years old Zukofsky has become one of the foremost exponents of contemporary violin music. Born in Brooklyn, the son of composer Celia Zukofsky and poet Louis Zukofsky, he made his professional debut with the New Haven Symphony when only 8. At 13 a recital in Carnegie Hall brought even greater recognition. Zukofsky received his master's degree from the Julliard School of Music at age 20.

Zukofsky is well-known to New England audiences for his summer performances at Tanglewood, and as a member of the Berkshire Music Center faculty. He is also on the faculties of Swarthmore College and the New England Conservatory of Music. His credits include a host of prizes and awards, and appearances with symphony orchestras both in the United States and abroad.

Although a renown interpreter of contemporary violin music, Zufofsky is equally gifted with traditional compositions. His program for the Worcester Art Museum will include pieces ranging from the 18th century to today.

MOBILE CONTEST

President Hazzard is sponsoring a mobile contest to award those Tech students who exhibit originality and craftsmanship. First prize is $25, second prize is $15 and third prize is $10. Judging will be done by two members of the staff of Worcester Art Museum.

RULES

A) Entries will be judged on:
   1) Originality of material use
   2) Freedom of motion

B) Any Tech student or group of students may enter. This includes Fraternities, Shield, Clubs, Dorms, Freshmen, Commuters and individuals.

C) Entries must have a stand so they can be displayed on the quadrangle.

D) Entries can be no larger than 20' high and 30' across

E) Entries must be on display by 6:00 p.m. April 23 at which time the title and entrant's name will be recorded

F) Prizes will be awarded Friday eve April 25

G) Entries must have a title on display with the entry

H) No permanent fixtures, such as cement bases, will be allowed.

SUGGESTIONS

A) Make mobiles sturdy so they will last all semester

B) Motion is essential to beauty. Make them swing freely

C) Don't make them too small

D) See examples in bookstore

E) Material suggestions: Steel rod, glass tubing, wood, chem lab equip., drafting equip., beer cans, coathangers, knee pads, footballs, knicknacks, sport equip., common items used in unique ways.

Refer questions to Norman Sousa 756-5656

Cadets Have a Soldier's Weekend

by Maj. DiCaprio

Approximately forty junior and senior R.O.T.C. Cadets travelled to Fort Devens this weekend for a summer camp orientation. The purpose of the trip was to orient the cadets to their upcoming six week summer vacation, courtesy of the U. S. Army, at Indiantown Gap, Pennsylvania. The Cadets spent the weekend living a soldier's daily routine. Up at 5:30 a.m. to taps at 11:00 p.m., the Cadets found out how long a day could really be. They lived in barracks, ate in Mess Halls (whose good food surprised most), slept on bunks and generally received a good impression of their upcoming summer trip.

The Juniors and Seniors departed W.P.I. campus at 6:00 p.m., Friday evening April 17 by commercial bus for an hour trip to Fort Devens. There they were met by the R.O.T.C. cadre and selected Seniors who acted as their "guides" and instructors for their weekend training. During the evening, the students were oriented on barrack's living and give helpful time saving hints by the cadre NCO's. Saturday sunrise came early and after shaving, shining shoes and cleaning barracks the Cadets found themselves on the Leadership Reaction Course. The course consisted of walking over a two-mile cross-country course, encountering twelve decision making situations along the way. The Recondo Club of W.P.I. played the role of the aggressors and provided the stage setting for the situations. Saturday afternoon the Cadets were introduced to Army firing ranges where they conducted live firing exercises on two different ranges. The more challenging range was the 75, 175, and 300 meters "Pop-Up Targets" range where the Cadets reactions and firing ability was tested. Saturday evening the Juniors prepared for their first formal Army inspection. Cleaning rifles and equipment was the order of the night with adventure stories in between.

Sunday morning proved to be the more physically challenging, as the Cadets began an actual Army Physical Combat Proficiency Test at 7:00 a.m. The test consisted of five stations; a 40 meter low crawl, a 76 rung horizontal ladder station, 90 feet accuracy grenade throw, two circuits through a dodge, run, and jump course and ending up on a timed mile run. At the completion of the course and ending up on a timed mile run. At the completion of the course the W.P.I. Cadets spirits lifted as they observed R.O.T.C. Cadets from Harvard enter the course with full-field packs and groans.

A successful inspection ended the training weekend and it was off to the mess hall for a well deserved lunch. Back to Worcester and 2:30 Sunday afternoon Tech never looked so good. Somehow the Cadets had survived, a little confidence had been instilled, and after all six weeks won't be that long.

Tech Gets Babcox Grant

Worcester Polytechnic Institute was one of twenty-one colleges and universities receiving educational grants totaling $50,000 announced today by The Babcock & Wilcox Company. The awards being given to the schools as well as a grant to the United Negro College Fund, are to be used for engineering and technical education.

Since establishing its Aid-to-Education program in 1956, Babcock & Wilcox has contributed more than $2.2 million to American colleges and universities.

In announcing the 1970 grants, George G. Zipf, Babcock & Wilcox President and Chief Executive Officer said that the company's educational aid indicates the importance the company places on American institutions of learning. "From these institutions will come the nation's future professional and business leadership," said Mr. Zipf.

Babcock & Wilcox is a major supplier of industrial goods including conventional and nuclear power systems, fabricated steel, automated machine tools, and computer systems for process control. The company's sales were more than $718 million in 1969.

Summer School Gets Nat'l. Science Foundation Grant

The National Science Foundation has awarded $45,460 for the support of the 1970 Summer Institute in electrical engineering for college teachers, June 15 to August 8, at Worcester Polytechnic Institute.

Dr. Glen A. Richardson, head of the WPI electrical engineering department, will direct the program for the ninth consecutive year. Enrollment will be about 30 from the United States and several foreign countries.

The Institute offers graduate courses in electrical engineering, mathematics and physics to electrical engineering faculty from colleges, junior colleges and technical institutes. The program goals are updating of college teachers in electrical engineering subjects, one of the more rapidly changing technological areas.

In previous years, the college has enrolled more than 100 students from over 35 states, Puerto Rico and seven foreign countries. Most participants are housed with their dependents in WPI dormitories.

NEWS SHORTS

BLACK DORM DISBANDS

Yellow Springs, O. - (I.P.) - Antioch College recently reported to the Department of Health, Education and Welfare (HEW) that Unity House, a dormitory formed by Black students in the fall of 1968, was disbanded by the Afro-American Studies Institute (AASI).

In a regular quarterly report to Leon Panetta, director of HEW's Office fo Civil Rights, Antioch Vice President William H. Warren wrote: "As is customary, individual requests for living arrangements were received and dealt with on an individual basis.. ..but no group petitions were received from Black students.

OPEN FORUM

The Faculty Planning Committee would like to meet with interested students in Atwater Kent 117 on Thursday April 23 at 10:45 A.M. to discuss the proposed educational plan for WPI. This plan will be acted on by the faculty this spring. Copies of the final report are available in Gordon Library.

Herrion New W. P. I. Basketball Coach

WORCESTER, MASS.--James J. (Jim) Herrion, who was an interim coach of the Worcester Polytechnic Institute basketball team for the 1969-70 season on a part-time basis, has been appointed a WPI assistant professor in the Department of Physical Education and Athletics.

Prof. Robert W. (Bob) Pritchard, head of the department and athletic director, said Herrion will be assigned as head basketball coach. Herrion gave WPI a winning season (11-10) for the first time in several years.

Herrion was a varsity basketball aide and a freshmen coach at Holy Cross for three years under Jack Donohue, until he resigned in 1968 to become guidance counselor at Tantasqua Regional High School in Sturbridge.

Prithcard said, "I am very happy that Jim Herrior has decided to accept the position in the Physical Education Department. He will be head basketball coach with other coaching duties in the Fall and Spring. He will also work with physical education classes as do all other members of the department.

"Jim served as interim head basketball coach for the last season and did an excellent job, concluding with a winning season. The winning season was climaxed with a double overtime win over arch rival Clark University."

"I am sure the members of the basketball squad will be pleased with this announcement. I think the association will be good for all concerned."

Herrion is a graduate of Iona College and has a master of arts in guidance in the secondary school from New York University.

When Jack Donohue came to Holy Cross in 1965, Herrion came along after establishing a varsity basketball record of 157 wins and 67 losses in 12 years at Sacred Heart High School in Yonkers, N.Y., where he also coached cross-country.

His HC Frosh record was 34-15 during the three-year period that the HC victory made it 41-29. He has directed Donohue's basketball camp since 1960.

UPCOMING SPORTS EVENTS...

Wed. 22 VARSITY TENNIS W.P.I. vs Holy Cross away 2:00 p.m.
Thurs 23 FRESHMAN TRACK W.P.I. vs Worcester Academy away 4:00 p.m.
Fri. 24 FRESHMAN TENNIS W.P.I. vs. Dean Junior College Home 2:00 p.m.
Sat. 25 VARSITY BASEBALL W.P.I. vs Coast Guard Doubleheader home 1:00 p.m.
VARSITY TRACK W.P.I. with Colby and Norwich away 1:00 p.m.
VARSITY TENNIS W.P.I. vs. Babson away 2:00 p.m.
Mon. 27 VARSITY GOLF W.P.I. vs. Holy Cross and Assumption away 1:30 p.m.

CREW

Support the WPI CREW teams this Wednesday at Lake Quinsigamond for the Worcester championships

The Tech News SPORTS

UMass Crew Sinks Tech

Last Saturday W.P.I.'s crew faced strong competition from U. Mass. and LaSalle at U. Mass. The freshman after leading at the start fell behind and finished third. The J.V.'s best A.I.C. and ended up third also in the race. The varsity race saw Tech fall to a very powerful U. Mass. team. Tech managed to stay no more than 1/2 a length behind until the very end. However, U. Mass. who has rowed for 7 weeks compared to Tech's 3 displayed their conditioning advantage and pulled away to a 2 length victory. Tech was able to beat LaSalle by 1 length.

The conditions at U. Mass. were the worst possible. There was a 15 m.p.h. current and 1 m.p.h. headwind to battle. The times were close to 8 minutes, and this is where Tech, used to a 6 1/2 minute race, was beaten.

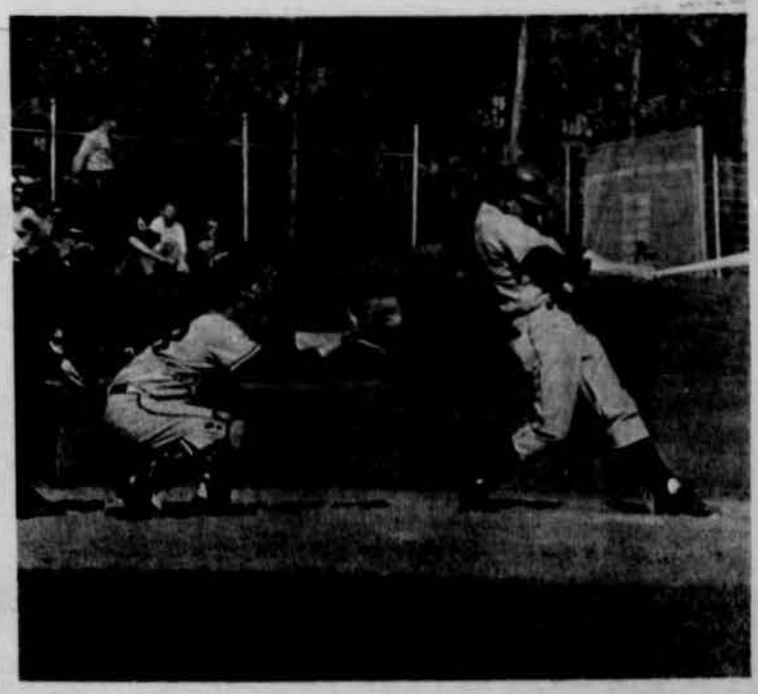
This Wednesday, Tech battles Holy Cross and Assumption in the Worcester City Championship. The team would appreciate a large turnout for this one.

BOWLING TEAM

At the Tri-State College Bowling Conference on 4/13/70 Worcester Tech's Barry Chesbro placed 2nd in the individual high singles with 257. Barry also placed 4th in the individual high triples with a score of 634.

With a team record of 20-12; Tech placed fourth in team standings followed behind Lowell Tech, Western New England and Central Conn. respectively. Team members and their averages:

Pete Billington	27	4753	176
Ken Morgan	19	2862	150
Bob Stula	27	4831	178
Andy Dileo	15	2644	176
Barry Chesebro	24	4545	189
Clark Knickerbocker	12	1953	162
Bennett	9	1589	176



Greyhounds Beat Tech Underdogs

Assumption scored four times in the bottom of the first and defeated Worcester Tech, 9-2, to even its baseball record at 2-2 yesterday at the Assumption field.

Doubles by Brian Foley and Steve Connelly drove in three of the four Assumption runs in the first. That was more than enough for freshman pitcher Ed Lavigne of West Boylston.

Bobby Austin, who had stolen home on the front end of a double steal to start the first inning scoring, hit a two-run homer in the third just to make Lavigne breathe easier.

George Moore provided most of the punch for Tech, which is also at 2-2, doubling home the first Engineer run and collecting two of the five hits off Lavigne.

ASSUMPTION	AB	R	H	TECH	AB	R	H
Austin 1B-3B	3	2	2	Rooney 2B	4	0	0
Nellen 2B	3	1	0	Dennis RF	4	0	0
Grimaldi 1B	2	0	0	Senkow 3B	4	0	0
T.Smith CF	3	1	2	Johnson LF	3	0	0
Raymond C	4	1	0	Polli C	3	0	0
Paris 3	3	1	1	Sund CF	2	1	0
Foley RF	3	1	2	Masseoud PH	1	0	0
Becker PH	1	0	0	Moore SS	3	0	1
Connelly LF	4	0	1	Rogers 1B	3	0	0
Creelman SS	3	1	1	Sayegh PH	1	0	1
Lavigne P	2	1	0	Smith P	2	0	1
				Johnson PH	1	0	0
Totals	32	9	8	8	Totals	31	2	4

Tech	000	100	001	—	2				
Assumption	400	000	10x	—	9				

Creelman, R. Smith. Tech 1, LOB—Tech 9.
2B — R. Johnson, Moore, T. Smith, Foley, Connelly. 3B — T. Smith.
HR — Austin, SB — Austin, Nellen, S — Nellen, Lavigne.

	IP	H	R	ER	BB	SO
Lavigne (W)	9	3	2	2	3	3
R. Smith (L)	8	8	9	7	8	2

"Winning isn't everything.it's the only thing" Engineer Netters Rout Bentley, 9-0

Worcester Tech's tennis team whitewashed Visiting Bently College Saturday, 9-0, at Tech. Jim Kinley, the Engineer's No. 1 man, won his singles match from Hohn Gamelle and then teamed with Hoe Sperwald to take the Bentley doubles.

Crossfire

(cont. from p. 3 col. 5)

the President's might grope frantically for the proper theoretical arguments and not find them, having sometime earlier in his years banished them from his mind as uncivilized or undemocratic or neanderthal. It is a great pity, because these theoretical arguments exist, and would have, in fact, been quite appropriate for the occasion.

Because surely the President's actions were in the best interests of freedom of speech; that's all he need have pointed out at the time. One strikes a blow for the institution of free speech, which the TECH NEWS ostensibly cherishes, by for example denying the privately entrusted tools those such as Abbie Hoffman ask to utilize--when propriety and civil notions demand it. It is generally known what the ascendency of Abbie Hoffman to a position of arbitrary power would entail. But we need not even consider the millenium Hoffman et al. desire to found. One need only consider what these people - who stylize themselves as "revolutionaries" - are prepared to do to establish that millenium. There is for instance this matter of the defense of "academic freedom", in which name the rebuff to Hoffman might also have been condemned. At Holy Cross a few weeks ago a couple of strutting racists stood upon a stage, there to announce matter of factly that Yale University would be something more than the object of intense Black Panther displeasure come this summer. Hoffman recapitulated the Black Panther rhetoric more than one in his routine, but his references to the scheduled May 1 march in New Haven was singularly striking: "And we aren't going down there to sing 'Boola Boola'. Goodbye Yale." As Hoffman said, there never has been a fair revolution.

Is this the kind of message Worcester Tech can identify with? "Goodbye Yale?" Is Hoffman speaking to us in an idiom we can identify as our own? This would have to be the case for him to successfully communicate to us, and if it is not the case, does it not follow that he can say nothing to us? Are the ends Hoffman desires to serve by speaking here ends we should desire to see advanced, in the name of curiosity, by inviting him here?

Hoffman is no more a man who harbours American values and cherishes American institutions than was Adolph Hitler, which fact Hoffman has readily conceded. Are we now to readily concede the right of on campus elements to sate their appetites for political insanity in the name of a sane respect for free speech of all things? While we are at it, let us all gather together under the banner of our fair nation, and proceed downtown, there to picket the jail house wherein resides poor Maude Pritchert, who, exercising her unconditional right to free speech, one day stood up in a crowded theater and shouted: "Fire! Fire! The holocaust of World War III will engulf us any day now, if we don't get out of Vietnam!" If you want to martyrize someone, martyrize her; at least she is not a seditionist.

Meditation and Ecology

by John Boyd

"Everyone today is concerned with Ecology. Since the aim of Ecology is for man to live in harmony with nature, Transcendental Meditation is a natural solution to ecological problems. The practice of this natural spontaneous technique promotes harmony on all levels of life."

On April 8, Lewis and Andree Leonard, both resident initiators at the Cambridge Center of SIMS (Students International Meditation Society) gave a lecture at WPI explaining the basic principles and practical benefits of Transcendental Meditation. They will return this THURSDAY, APRIL 23, to speak at CLARK'S DANA COMMONS at 8 p.m. At this lecture they will go into the details of the technique.

This natural spontaneous technique, Lew Leonard, explained, is practiced twice daily for fifteen minutes in the morning and evening. It was explained that one meditates because of the results one gets in daily life, some of which are increased energy, greater clarity of thought, balance of mind, and greater harmony in one's relationship with other people and one's environment.

Leonard described this technique of meditation (as taught by Maharishi Mahesh Yogi) is absolutely natural involving no concentration or contemplation. "Transcendental Meditation is a simple, effortless, automatic, mechanical, and universal technique of expanding the conscious mind by allowing it to experience a thought until the source of thought is reached."

Andree later explained the physiological aspects of this practice. She quoted an abstract of a thesis by Keith Wallace, PhD candidate in UCLA's Department of Neurophysiology. This abstract has been published in SCIENCE magazine. (March 1970) Studies being conducted at Harvard Medical School on Transcendental Meditators support Wallace's findings that transcending is indeed a fourth state of consciousness displaying dramatic changes in metabolism, respiration, blood flow, skin resistence, blood pressure, and brain wave patterns.

Concluding the lecture the Leonards explained that these lectures are part of a course in Transcendental Meditation. After the second lecture this Thursday there will be an opportunity for those wishing to begin meditation to learn the technique from a qualified initiator. On Saturday April 25, there will be personal instruction given in the technique at the Cambridge center, followed by three periods of instruction given in the evenings in Worcester on Sunday, Monday, and Tuesday.

CAMPUS OFFICERS ELECTED

THETA CHI (l. to r.), Pres. Greg Dickson, V. Pres. John Marino, Rush Chrm. Glenn Mortaro, Secy. Rich Sojka, Treas. Joe Bianca.

LAMBDA CHI ALPHA (l. to r.) Pres., Michael Zarrilli; Vice Pres., Rick Tine; Sec., Michael Armenia; Treas., Louis Howayeck.

ALPHA TAU OMEGA (l. to r.) Secy. Fran Scricco, Treas. Norma Sousa, Pres. Ray Skowyra, V. Pres. Tom Weil.

TAU KAPPA EPSILON (l. to r.) Raymond Roberge, Secretary; Robert Sinicrope, President; Charles Sumner, Vice-President.

PHI GAMMA DELTA (l. to r.) Bill Light, Historian; Noel Totti, Treasurer; Don Tanana, President; Bill Delis, Recording Secretary; Bob Dutkiewicz, Corresponding Secretary.

ALPHA EPSILON PI (l to r.) Ken Cirifian, Treasurer; Mark Koretz, President; Steve Demeratsky, Vice-President; Paul Ash, Pledge Chairman.

DELTA SIGMA TAU (l. to r.) Pres. Paul Grady, V. Pres. Richard Logan, Secy. Gary Rand.

SIGMA ALPHA EPSILON (l. to r.) Pres. Donald Peterson, V. Pres. Randall Huber, Secy. Christopher Johnson, Treas. Peter Salis

SIGMA PI (l. to r.) Pres. Robert Payne, V. Pres. Leonard Fowler, Treas. Larry Sniegolski, First Counselor Norman Johnson.

MISSING

PHI KAPPA THETA

PHI SIGMA KAPPA

SIGMA PHI EPSILON

Pictures will appear
in next week's paper.

SHIELD (l. to r.) V. Pres. Dave Bedard, Secy. Treas. Elly Berry, Pres. Rich Bingham.

ASME ELECTION

The new officers are:

President: Ed Lowe, '71

Vice-President: Greg Dickson '71

Secretary: Bert Stromquist '71

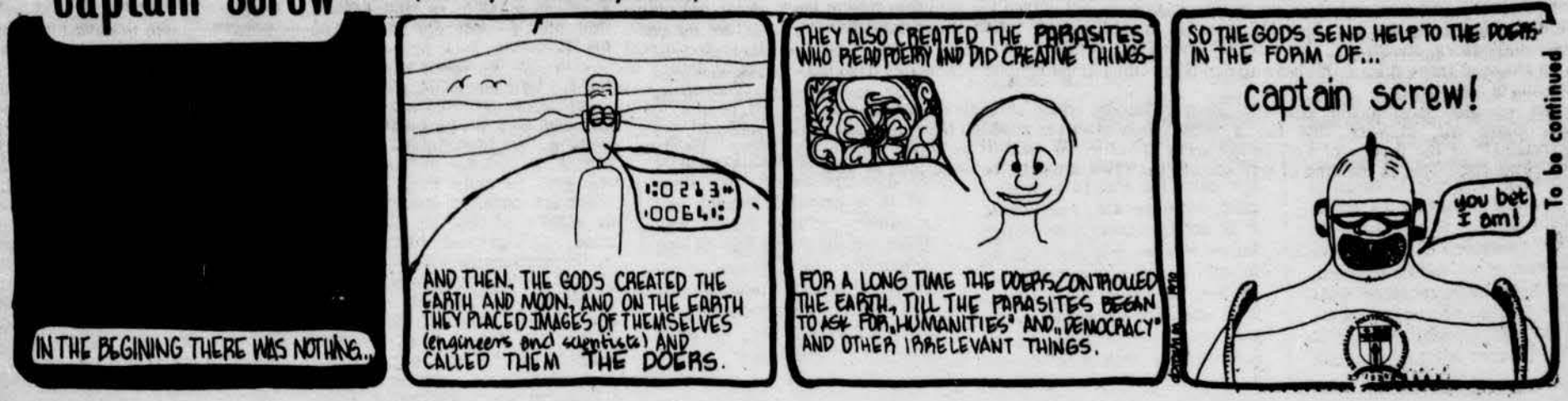
Treasurer: John Marino '71

and

Co-ordinator: Doug Best '72

captain screw

(courtesy of The Polytechnic)



Letter... "The Tyranny of Spoiled Brats"

by Dr. K. Ross Toole

I am 49 years old. It took me many years and considerable anguish to get where I am -- which isn't much of anyplace except exurbia. I was nurtured in depression; I lost four years to war; I am invested with sweat; I have had one coronary; I am a "liberal" square, and I am a professor. I am sick of the "younger generation," hippies, yippies, militants and nonsense.

I am a professor of history at the University of Montana, and I am supposed to have "liaison" with the young. Worse still, I am father of seven children. They range in age from 7 to 23, and I am fed up with nonsense.

I am tired of being blamed, maimed and contrite; I am tired of tolerance and the reaching out (which is always my function) for understanding. I am sick of the total irrationality of the campus "rebel," whose bearded visage, dirty hair, body odor and "tactics" are childish but brutal, naive but dangerous, and the essence of arrogant tyranny -- the tyranny of spoiled brats.

I am terribly disturbed that I may be incubating more of the same. Our household is permissive, our approach to discipline is an apology and a retreat from standards -- usually accompanied by a gift in cash or kind.

It's time to call a halt, time to live in an adult world where we belong and time to put these people in their places. We owe the "younger generation" what all "older generations" have owed younger generations--love, protection to a point, and respect when they deserve it.

We do not owe them our souls, our privacy, our whole lives, and above all, we do not owe them immunity from our mistakes, or their own.

FEWER MISTAKES

Every generation makes mistakes, always has and always will. We have made our share. But my generation has made America the most affluent country on earth; it has tackled head-on a racial problem which no nation on earth in the history of mankind had dared to do. It has publicly declare war on poverty, and it has gone to the moon; it has desegregated schools and abolished polio; it has presided over the beginning of what is probably the greatest social and economic revolution in man's history.

It has begun these things, not finished them. It has declared itself, and committed itself, and taxed itself, and damn near run itself into the ground in the cause of social justice and reform.

Its mistakes are fewer than my father's generation - or his father's or his. Its greatest mistake is not Vietnam; it is the abdication of its first responsibility, its pusillanimous capitulation to its youth and its sick preoccupation with the problems, the mind, the psyche, the raison d'etre of the young.

Since when have children ruled this country? By virtue of what right, by what accomplishment should thousands of teenagers, wet behind the ears and utterly without the benefit of having lived long enough to have either judgment or wisdom, become the sages of our time?

The psychologists, the educators and preachers say the young are rebelling against our archaic mores and morals, our materialistic approach to life, our failures in diplomacy our terrible ineptitude in racial matters, our narrowness as parents, our blindness to the root ills of society. Balderdash!

MANY THREADS

Society hangs together by the stitching of many threads. No 18-year-old is simply the product of his 18 years; he is the product of 3,000 years of the development of mankind - and throughout those years, injustice has existed and been fought; rules have grown outmoded and been changed; doom has hung over men and been avoided; unjust wars have occurred; pain has been the cost of progress. And man has persevered.

As a professor and the father of seven, I have watched this new generation and concluded that most of them are fine. A minority are not - and the trouble is that the minority threatens to tyrannize the majority and take over.

I dislike that minority; I am aghast that the majority "takes" it and allows itself to be used. And I address myself to both the minority and the majority. I speak partly as a historian, partly as a father and partly as one fed-up, middleaged and angry member of the so-called "establishment" - which, by the way, is nothing but a euphemism for "society."

Common courtesy and a regard for the opinions of others is not merely a decoration on the pie crust of society, it is the heart of the pie. Too many "youngsters" are egocentric boors. They will not listen; they will only shout down. They will not discuss, but, like four year olds, they throw rocks and shout.

Arrogance is obnoxious; it is also destructive. Society has drastically ostracized arrogance without the backing of demonstrable accomplishment. Why, then, do we tolerate arrogant slobs who occupy our homes, our administration buildings, our streets and parks, urinating on our beliefs and defiling our premises?

POLICE NOT NEEDED

It is not the police we need, (our generation and theirs), it is an expression of our disgust and disdain. Yet we do more than permit it; we dignify it with introspective flagellation. Somehow it is our fault. Balerdash again!

Sensitivity is not the property of the young, nor was it invented in 1950. The young of any generation have felt the same impulse to grow, to reach out, to touch stars, to live freely and to let the minds loose along unexplored corridors. Young men and young women have always stood on the same hill and felt the same vague sense of restraint that separated them from the ultimate experience -- the sudden and complete expansion of the mind, the final fulfillment. It is one of the oldest, sweetest and most bitter experiences of mankind.

Today's young people did not invent it; they do not own it. And what they seek to attain, all mankind has sought to attain throughout the ages. Shall we, therefore, approve the presumed attainment of it through heroin, speed, LSD and other drugs?

And shall we, permissively, let them poison themselves simply because, in most other respects, we feel vaguely guilty because we brought them into the world? Again, it is not police raids and tougher laws that we need; it is merely strength. The strength to explain, in our potty, middleaged way, that what they seek, we sought; that it is somewhere but not here and sure as hell not in drugs; that, in the meanwhile, they will cease and desist the poison game. And this we must explain early and hard - and then police police it ourselves.

Society, "The Establishment," is not a foreigh thing we seek to impose on the young. We know it is far from perfect. We did not make it; we have only sought to change it. The fact that we have only been minimally successful is the story of all generations -- as it will be the story of the generation coming up. Yet we have worked a number of wonders. We have changed it.

We are deeply concerned about our failures; we have not solved the racial problem, but we have faced it; we are terribly worried about the degradation of our environment, about injustices, inequities, the military-industrial complex and bureaucracy. But we have attacked these things. We have all our lives taken arms against our sea of troubles - and fought effectively.

But we also have fought with a rational knowledge of the strength of our adversary; and, above all, knowing that the war is one of attrition in which the "unconditional surrender" of the forces of evil is not about to occur. We win, if we win at all, slowly and painfully. That is the kind of war society has always fought, because man is what he is.

Knowing this, why do we listen subserviently to the violent tacticians of the new generation? Either they have total victory by Wednesday next or burn down our carefully built barricades in adolescent pique; either they win now or flee off to a commune and quit; they solve all problems this week or join a wrecking crew of paranoids.

Youth has always been characterized by impatient idealism. If it were not, there would be no change. But impatient idealism does not extend to guns, fire bombs, riots, vicious arrogance, and instant gratification. That is not idealism; it is childish tyranny vicious arrogance, and instant gratification. That is not idealism; it is childish tyranny. The worst of it is that we (professors and faculties in particular), in a paroxysm of self-abnegation and apology, go along, abdicate, apologize as if we had personally created the ills of the world - and thus lend ourselves to chaos. We are the led, not the leaders, And we are fools.

As a professor, I meet the activists and revolutionaries every day. They are inexcusably ignorant. If you want to make a revolution, do you not study the ways to do it? Of course not! Che Guevara becomes their hero. He failed; he died in the jungles of Bolivia with an army of six. His every move was a miscalculation and a mistake. Mao Tse-tung and Ho Chiminh led revolutions based on a peasantry and an overwhelming ancient rural economy. They are the pattern-makers for the LSD and the student militants.

UNLETTERED ACTIVISTS

I have yet to talk to an "activist" who has read Crane Brinton's "The Anatomy of Revolution," or who is familiar with the works of Jefferson, Washington, Paine, Adams or even Marx or Engels. And I have yet to talk to a student militant who has read about racism elsewhere and-or who understands, even primitively, the long and wonderous struggle of the NAACP and the genius of Martin Luther King - whose name they invariably take in vain.

An old and scarred member of the wars of organized labor in the U.S. in the 1930's recently remarked to me, "These 'radicals' couldn't organize well enough to produce a sensible platform, let alone revolt their way out of a paper bag." But they can, because we let them, destroy our universities, make our parks untenable, make a shambles of our streets, and insult our flag.

I assert that we are in trouble with this younger generation not because we have failed our country, not because of affluence or stupidity, not because we are antediluvian, not because we are middle-calss materialists - but simply because we have failed to keep that generation in its place and we have failed to put them back there when they got out of it. We have the power; we do not have the will. We have the right; we have not exercised it.

To the extent that we now rely on the police, mace, the National Guard, tear gas, steel fences and a wringing of hands, we will fail.

REAPPRAISAL

What we need is a reappraisal of our own middleclass selves, our worth and our hard-won progress. We need to use disdain, not mace; we need to reassess a weapon we came by the hard way, by travail and labor, firm authority as parents, teachers, businessmen, workers and politicians.

The vast majority of our children from one to 20 are fine kids. We need to back this majority with authority and with the firm conviction that we owe it to them and to ourselves. Enough of apology, enough of analysis, enough of our abdication of responsibility, enough of the denial of our own maturity and good sense.

The best place to start is at home. But the most practical and most effective place right now is our campuses. This does not mean a flood of angry edicts, a sudden clampdown, a "new" policy. It simply means that faculties should stop playing chicken, that demonstrators should be met not with police but with expulsion. The power to expel (strangely unused) has been the legitimate recourse of universities since 1209.

More importantly, it means that a freshman orientation, whatever form it takes, the administration should set forth the ground rules -- not belligerently but forthrightly.

A university is the microcosm of society itself. It cannot function without rules for conduct. It cannot, as society cannot, legislate morals. It is dealing with young men and women, 18 to 22.

But it can, and must, promulgate rules. It cannot function without order -- and, therefore, who dirupts order must leave. It cannot permit students to determine when, what and where they shall be taught; it cannot permit the occupation of its premises, in violation both of the law and its regulations, by "militants."

There is room within the university complex for basic student participation, but there is no room for slobs, disruption and violence. The first obligation of the administration is to lay down the rules early, clearly and posttively, and to attach to this statement the penalty for violation. It is profoundly simple, and the failure to state it -- in advance -- is the salient failure of university administrators in this age.

Expulsion is a dreaded verdict. The administration merely needs to make it clear, quite dispassionately, that expulsion is the inevitable consequences of violation of the rules. Among the rules, even though it seems gratuitious, should be these:

1. Violence, armed or otherwise, the forceful occupation of buildings, the intimidation by covert or overt act of any student or faculty member or administrative personnel, the occupation of any university property, field, park, building, lot or other place shall be cause for expulsion.

2. The disruption of any class, directly or indirectly, by voice or presence or the destruction of any university property shall be cause for expulsion.

NOTHING NEWS

This is neither new nor revolutionary. It is merely the reassertion of an old, accepted and necessary right of the administration of any such insititution. And the faculty should be informed, firmly, of this reassertion, before trouble starts. This does not constitute provocatism; it is one of the oldest rights and necessities of the university community. The failure of university administrators to use it is one of the mysteries of our permissive age -- and the blame must fall largely on faculties because they have consistently pressured administrators not to act.

Suppose the students refuse to recognize expulsions; suppose they march riot, strike. The police? No. The matter, by prearrangement, publicly stated, should then pass to the courts.

If buildings areoccupied, the court enjoins the participating students. It has the awful power to declare them in contempt. If violence ensues, it is violation of the court's order. Courts are not subject to fears, not part of the action.

Too simple? Not at all. Merely an old process which we seem to have forgotten. It is too direct for those who seek to employ Freudian analysis, who long for philosophical debate, and too prosaic for those who seek orgastic self-condemnation.

This is a country full of decent, worried people like myself. It is also a country full of people fed up with nonsense. We need (those of us over 30) -- tax ridden, harried, confused, weary and beat-up - to reassert our hard won prerogatives. It is our country, too. We have fought for it, bled for it, dreamed for it, and we live in it. It is time to reclaim it.

ALMA TRIO PERFORMS AT WORC. ART MUSEUM

by Dave Hobill

Despite many annoyances such as unruly children, squealy baby buggies, boisterous old people, and the oppressive heat in the court of the art museum the Alma Trio provided a small crowd with a musical treat last Sunday afternoon during their performance of an all-Beethoven program. The trio played four of Beethoven's works ranging from his earliest writings to a work written during the composer's later life.

The ensemble, consisting of William Corbett Jones, piano; Audor Toth, violin and Gabor Rejto, cello; was founded in 1944 on the Alma Estate of Yehudi Menuhin in the Santa Cruz Mountains, and since then has become one of the most distinguished chamber groups in the world today.

The program began with the Trio in D Major Opus 70, No. 1 (subtitled Ghost). At the very opening of the Allegro movement it was quite obvious that each of these men were truly artists of the highest caliber, and though one would have thought they were playing to their utmost ability in this movement, the later pieces showed that they maintained even more virtuosity. The talent with which proved that he could play quite delicately and still maintain some degree of forcefullness.

In the Sonata for cello and piano, Mr. Rejto demonstrated his capabilities in performing many kinds of passages. At no time during this work was there any hint that either Mr. Rejto of Mr. Jones would get carried away with tempo and perform somewhat over-Romatically.

The discipline shown in both of these works was outstanding. Mr. Jones proved to the audience that he is truly one of the great new the group captured the profundity of this peice was amazing. Even during the presto movement the trio sustained a clarity that can hardly be described.

Following the "Ghost" trio the ensemble performed two of Beethoven's sonatas for two instruments, Sonata in A major Op. 47, "Kreutzer" for violin and piano and Sonata in F major Opus 5, No. 1 for cello and piano.

In the former Mr. Troth displayed his extreme brilliance as a solo violinist. The opening movement of this work while being quite powerful in scope was not beyond the adaptness of Mr. Troth. Yet after this movement the violinist pianists in the world today. Unfaultingly he proceeded through difficult passages and maintained a breathtaking balance between his instrument and the violin and cello.

For those who left after the intermission because of the heat or any other reason, let me say that they missed an extremely well performed version of Beethoven's Trio in E flat major, Opus 1, No. 1. Though in the manner performed this trio sounded much more like later Beethoven, it was received quite appreciatively. Mr. Jones played in a style which was a little more classical and fit into this piece nicely. The second movement was quite lovely in the melodies brought out by the strings.

During the last two movements no one could any longer remain drowsy for the air became electrified with the sound eminating from the ensemble. Somehow all the heat disappeared and the quick passages of the finale cleared ones mind of any lethargy.

After hearing this concert I feel probably along with many others attending that these men definitely know where Beethoven's head was at.

WORCESTER CITY ROWING

CHAMPIONSHIP

Wednesday, April 22

4:00 P.M.

Tech — Holy Cross — Assumption

Come down and see the team

defend their title.

Pub opens right after the race.

Cosmopolitan Club Snares Traditions

On Wednesday, April 15, the Cosmopolitan Club held a well-attended meeting at which Lionel St. Victor, a Junior ME major from Haiti, provided the entertainment. Lionel played solos on the conga drums and told a bit about his country.

Coming events for the club include a coffeehouse to be held in Clark's Little Commons on Friday, April 24. Admission is free and the entertainment will be provided by folk and other acts already booked and any students who just want to get up and rap. There is also going to be a trip to Sturbridge Village on Saturday, May 9. Foreign students will be admitted free and Americans will receive a reduced rate. For more information please call the International Center (752-8414).

A traditional event for the Cosmopolitan Club is the International Dinner. This will be held on Tuesday, April 28 from their own countries so all will have a chance to sample food from many lands. Anyone wishing to cook a dish or reserve a place at the dinner contact Nora Blum (Riley 110, 791-9503), Mrs. Wiess (753-3175), or drop in the club mailbox on the bulletin board in the library.

The next regular meeting will be Friday, May 8 in the Janet Earle Room. Turkish folklore and dancing will be featured and all are welcome to attend.

As you can see, there are quite a few activities planned for the near future and the club members hope more of you will find the time to participate in them.

E. E.

Tutorial Sessions

conducted by
ETA KAPPA NU

every Tuesday
and Thursday
until May 21
AK 202
at 4:15 P.M.

And Then SPREE

Came DAY